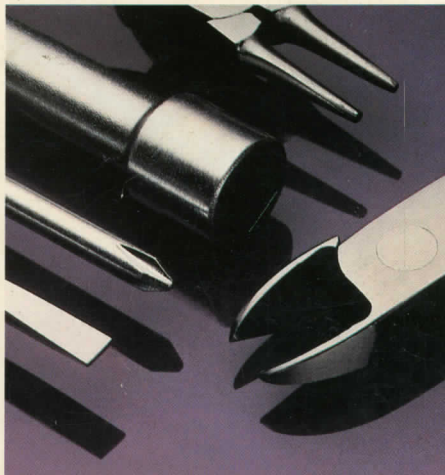
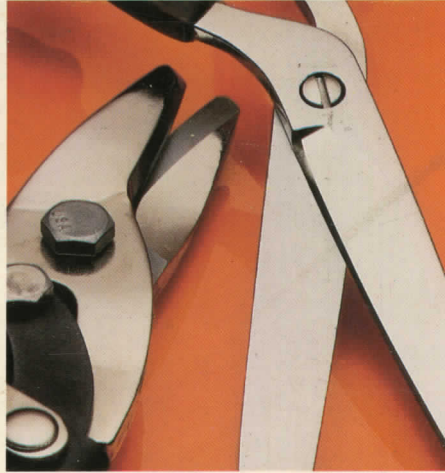
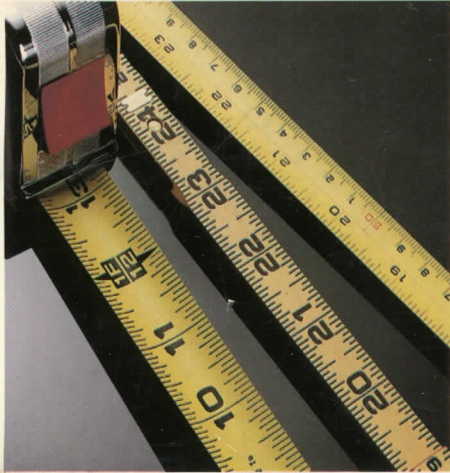
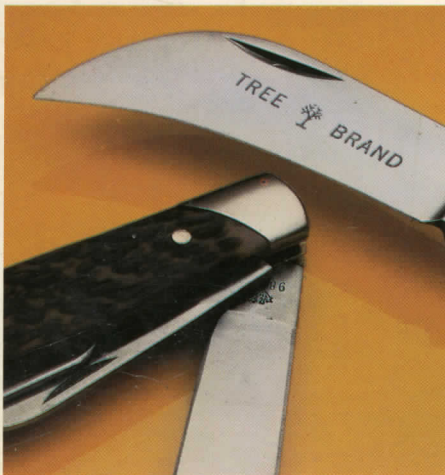


# The Cooper Group Catalog



Crescent  
Lufkin  
Nicholson  
Plumb  
Weller  
Wiss  
Xcelite  
Boker



**CooperTools**



The Cooper Group is dedicated to providing a comprehensive line of quality hand tools for the professional, industrial, electronic, hobby, notions, sporting and do-it-yourself markets throughout the world.

Cooper Group products include Crescent® adjustable wrenches, pliers, nutdrivers and screwdrivers, Lufkin® measuring tapes and rules, Nicholson® files, rasps and saws, Plumb® hammers, hatchets and axes, Weller® soldering guns and irons, temperature-controlled soldering equipment and hobby and craft tools, Wiss® scissors, shears and snips, Xcelite® electronic screwdrivers, nutdrivers and pliers, and Boker® knives.

The Group's manufacturing and marketing facilities are situated strategically across the USA, Canada, Central and South America, Western Europe, U.K. and Australia. A global network of distributors and wholesalers supported by worldwide marketing operations supplies Cooper's famous brand product lines to hardware stores, home centers, lumberyards, department and sporting stores, mass merchandisers, hobby, craft and notions outlets, and industrial and electronic consumers.

The Cooper Group is one of the operating divisions of Cooper Industries, the others being Energy Services, Drapery Hardware, Mining and Construction, Petroleum and Exploration Equipment, Industrial Equipment and Electrical Equipment.

With the combined technological and financial resources of Cooper Industries, The Cooper Group is soundly based to maintain and develop its reputation for producing quality hand tools worthy of professionals and craftsmen.

**CooperTools™**



**Catalog No. 55171**

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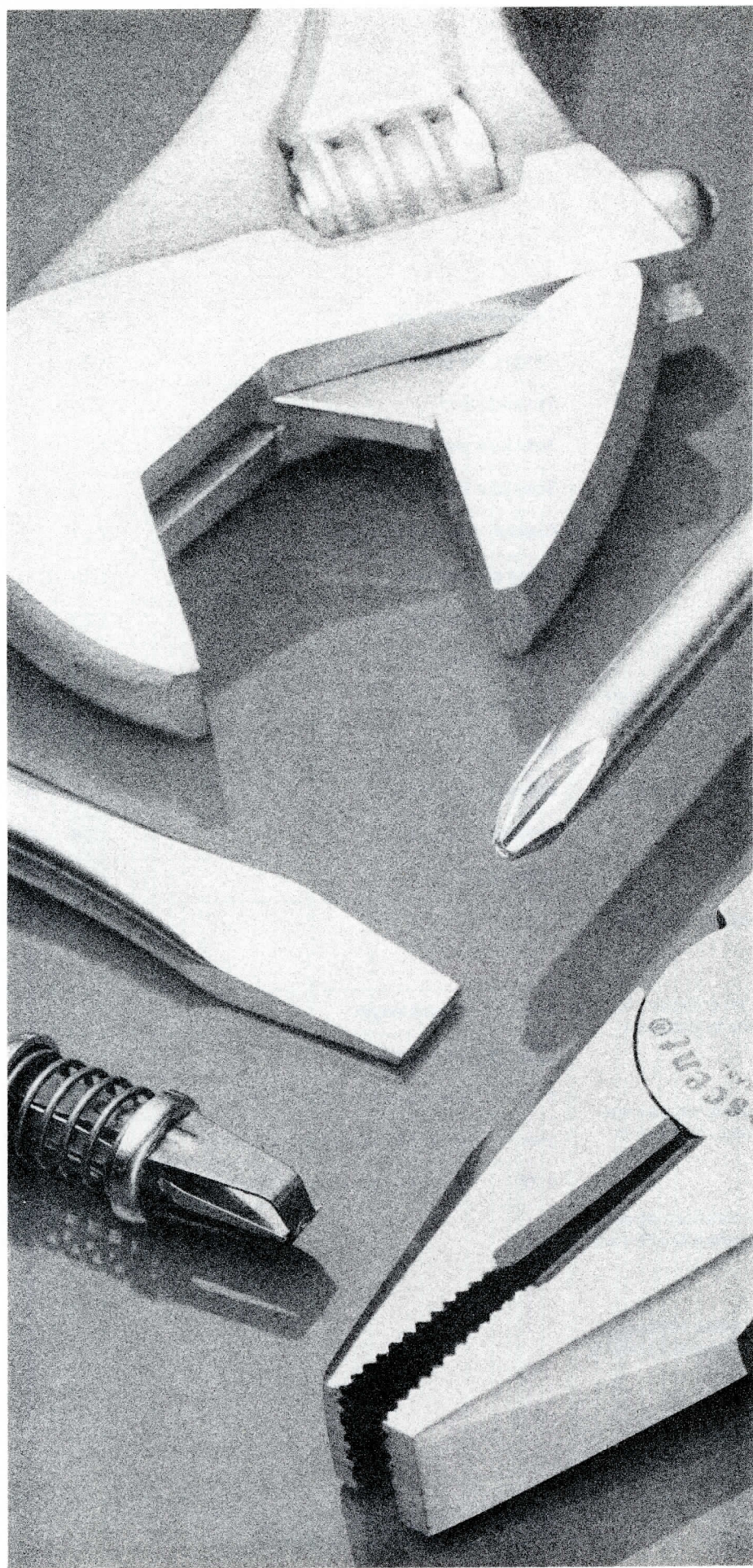
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<sup>®</sup>  
**Crescent**

**CooperTools**



# Crescent

Makers of the original Crescent Wrench, the one customers ask for by name. Founded in 1907, Crescent now provides professionals, tradesmen and homeowners with the finest in adjustable wrenches, pliers, screwdrivers, nutdrivers, nail pullers and awls.

## Special features available on Crescent products

Code: Use these letters after tool number and size to indicate your requirements. (Example: 942-4SC indicates 942-4" pliers with spring and cushion grip).

C—Cushion grip

E—Full flush cutting edge for Diagonal cutting pliers or End cutting nippers

I—Crestex insulated grip

P—Plain jaws

S—Pliers, coil spring between handles

T—Tenite grips

G—Semi-flush cutting edge for Diagonal cutting pliers or End cutting nippers

## Cushion grip

A rough textured flat finish dipped and baked on at factory for extra comfort and slip resistance. Red color aids locating lost tools.

## Crestex grip

A hard, tough, long wearing material impervious to oil, gasoline and most solvents. Chip, dent and crack resistant. Supplied in orange color.

## Tenite grip

Slip-on grips that provide maximum hold with minimum slippage because of molded-in serrations. These safety yellow handles are of a long-life, hard, tough material.

## Crescent packaging

Certain tools are available in a special, vacuum packed hanging display package. To order, add suffix "V." For example, AC14V is carded. AC14 is not carded.

## Note:

N/S No. is an abbreviation for NIDA/SIDA Number.

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## Key to symbols

 Overall length

 Jaw opening

 Blade length (of screwdrivers)

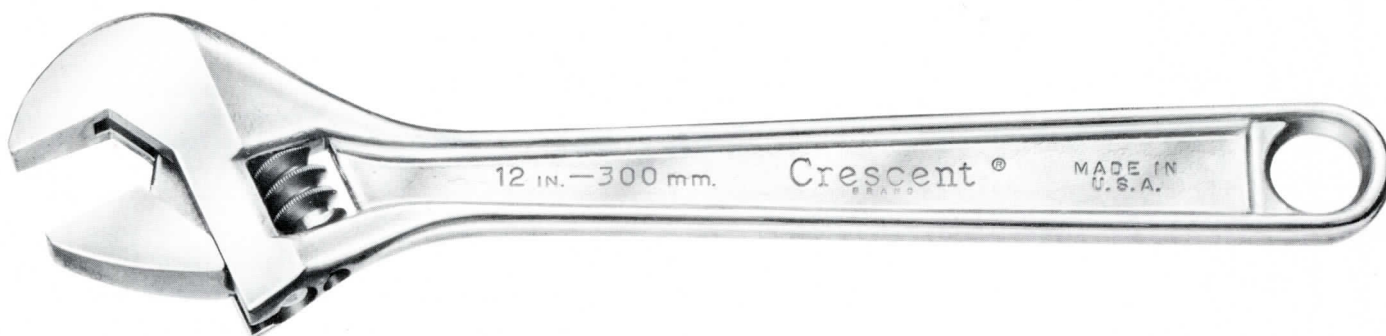
 Blade diameter (of screwdrivers)

 Overall length (of screwdrivers)



# Crescent® adjustable wrenches

World famous "Crescent" adjustable wrench. Made of fine alloy steel to give extra strength and wear. Proportioned dimensions for greatest strength with minimum weight. Used by professional mechanics, industrial tradesmen and home mechanics. Tension spring under Knurl helps prevent jaw opening from changing adjustment. Open handle design permits easier Knurl adjustment. Made of drop-forged alloy steel and heat treated for toughness and durability. Available in chrome or black phosphate finish.



## Chrome finish

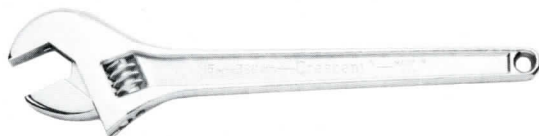
Regular handle. Polished head. Heavy chromium plating to resist corrosion and rust.



Cat. No.	N/S No.	Length " / mm	Jaw Width " / mm	Weight oz/g	Shelf Pack
AC14	46168	4/100	½/13	2.72/77	6
AC14V	46169				
AC16	46180	6/150	¾/19	4.96/141	6
AC16V	46181				
AC18	46193	8/200	1 ⅛/24	8.96/25.4	6
AC18V	46194				
AC18I	46857				
AC110	46303	10/250	1 ⅝/29	20.48/581	6
AC110V	46304				
AC110I	46676				
AC112	46316	12/300	1 ⅞/33	24.96/708	6
AC112V	46317				3
AC112I	46677				6

## Tapered handle

Less weight. Better two-hand grip. Chromium plated.



Cat. No.	N/S No.	Length " / mm	Jaw Width " / mm	Weight oz/g	Shelf Pack
AC115	46329	15/380	1 ⅞/43	52.32/1483	1
AC118	46335	18/460	2 ⅞/52	81.44/2309	1
AC124	46341	24/610	2 ⅞/62	140.80/3992	1

## Cushion grip, chrome finish



Same as adjustable wrenches above, but with addition of new exclusive low-fusion plastisol Safety Grip;  $\frac{1}{8}$ " baked on plastic coating with textured surface to provide comfortable, sure grip even under oiliest, sweatiest conditions. Bright red for easy identification.

Cat. No.	N/S No.	$\leftarrow \rightarrow$ "/mm	 "/mm	oz/g	Shelf Pack
AC14C	46170	4/100	$\frac{1}{2}$ /13	3.52/100	6
AC14CV	46171				
AC16C	46182	6/150	$\frac{3}{4}$ /19	4.96/141	6
AC16CV	46183				
AC18C	46195	8/200	$1\frac{5}{8}$ /24	9.28/263	6
AC18CV	46196				
AC110C	46305	10/250	$1\frac{1}{8}$ /29	21.92/621	6
AC110CV	46306				
AC112C	46318	12/300	$1\frac{5}{8}$ /33	27.20/771	6
AC112CV	46319				

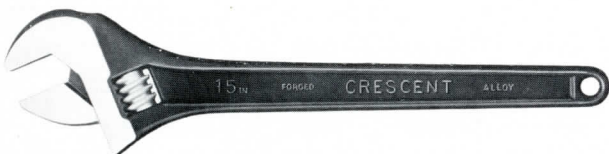
## Black phosphate finish



Regular handle. Non-slip grip. Polished head. Corrosion resistant finish.

Cat. No.	N/S No.	$\leftarrow \rightarrow$ "/mm	 "/mm	oz/g	Shelf Pack
AT14	46175	4/100	$\frac{1}{2}$ /13	2.72/77	6
AT14V	46176				
AT16	46187	6/150	$\frac{3}{4}$ /19	4.96/141	6
AT16V	46188				
AT18	46200	8/200	$1\frac{5}{8}$ /24	8.96/254	6
AT18V	46201				
AT18I	46685				
AT110	46310	10/250	$1\frac{1}{8}$ /29	20.64/585	6
AT110V	46311				
AT110I	46314				
AT112	46324	12/300	$1\frac{5}{8}$ /33	24.96/708	6
AT112V	46325				3

## Tapered handle



Cat. No.	N/S No.	$\leftarrow \rightarrow$ "/mm	 "/mm	oz/g	Shelf Pack
AT115	46333	15/380	$1\frac{1}{8}$ /43	52.32/1483	1
AT118	46339	18/460	$2\frac{1}{8}$ /52	81.44/2309	1

## Cushion grip, black phosphate finish



Cat. No.	N/S No.	$\leftarrow \rightarrow$ "/mm	 "/mm	oz/g	Shelf Pack
AT14C	46177	4/100	$\frac{1}{2}$ /13	3.52/100	6
AT16C	46189	6/150	$\frac{3}{4}$ /19	4.96/141	6
AT18C	46202	8/200	$1\frac{5}{8}$ /24	9.28/263	6
AT18CV	46203				
AT110C	46312	10/250	$1\frac{1}{8}$ /29	21.92/621	6
AT110CV	46313				
AT112C	46326	12/300	$1\frac{5}{8}$ /33	27.20/771	6
AT112CV	46327				



## Tool kits



2 and 3 piece chromium plated adjustable wrenches in vinylite case with snap fastener.

Cat. No.	N/S No.	Description	Contents	Shelf Pack
AC Kit	46150	3 pieces	AC16, AC18 and AC110	1
AC1	46772	2 pieces	AC16 and AC110	1

## Tool kits

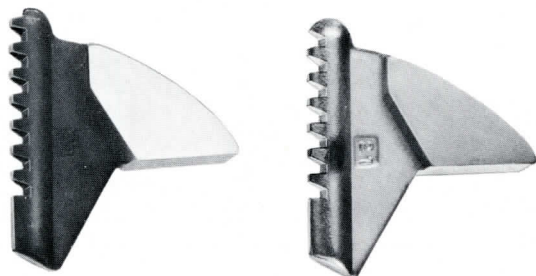


2 and 3 piece chromium plated adjustable wrenches on skin packed hang-up card.

Cat. No.	N/S No.	Description	Contents	Shelf Pack
ACV	46868	3 pieces	AC16, AC18 and AC110	1
AC1V	46869	2 pieces	AC16 and AC110	1

## Adjustable wrench repair parts

### Jaws for AC and AT wrenches



Size "/mm	AC Cat. No.	N/S No.	AT Cat. No.	N/S No.	oz/g	Shelf Pack
4/100	AC14J	46172	AT14J	46179	4.5/128	3
6/150	AC16J	46184	AT16J	46191	9.0/255	3
8/200	AC18J	46197	AT18J	46204	17.0/482	3
10/250	AC110J	46307	AT110J	46315	28.5/808	3
12/300	AC112J	46321	AT112J	46328	36.0/1021	3
15/380	AC115J	46330	AT115J	46334	9.0/255	1
18/460	AC118J	46336	AT118J	46340	16.0/454	1
24/610	AC124J	46342	—	—	27.0/765	1

## Knurls for AC and AT wrenches



Size "/mm	AC Cat. No.	AT Cat. No.	N/S No.	oz/g	Shelf Pack
4/100	AC14K	AT14K	46173	2.0/57	3
6/150	AC16K	AT16K	46185	3.0/85	3
8/200	AC18K	AT18K	46198	4.0/113	3
10/250	AC110K	AT110K	46308	6.5/184	3
12/300	AC112K	AT112K	46322	10.5/298	3
15/380	AC115K	AT115K	46331	2.0/57	1
18/460	AC118K	AT118K	46337	3.0/85	1
24/610	AC124K	—	46343	4.0/113	1

# Pins and springs for AC and AT wrenches



Size "/mm	AC Cat. No.	AT Cat. No.	N/S No.	oz/g	Shelf Pack
4/100	AC14P-S	AT14P-S	46174	2.0/57	3
6/150	AC16P-S	AT16P-S	46186	2.0/57	3
8/200	AC18P-S	AT18P-S	46199	3.0/85	3
10/250	AC110P-S	AT110P-S	46309	3.0/85	3
12/300	AC112P-S	AT112P-S	46323	5.5/156	3
15/380	AC115P-S	AT115P-S	46332	6.0/170	1
18/460	AC118P-S	AT118P-S	46338	7.0/198	1
24/610	AC124P-S	—	46344	8.5/241	1

## Repair parts assortments

The assortments come in boxes which have separate compartments for each of the five sizes of parts.

Box size: 7¼ x 5¼ x 1⅝" / 184 x 133 x 47mm with hinged cover.

Shipping weight: 2.9 lbs/1 162 g.

RP-AC Parts for Crescent chromium plated wrenches will fit "AC" style wrenches.

Cat. No.	N/S No.	Contents:			Shelf Pack
RP-AC	46151	2xAC14J	2xAC14K	2xAC14P-S	1
		3xAC16J	3xAC16K	3xAC16P-S	1
		3xAC18J	3xAC18K	3xAC18P-S	1
		3xAC110J	3xAC110K	3xAC110P-S	1
		3xAC112J	3xAC112K	3xAC112P-S	1

RP-AT Parts for Crescent "AT" style wrenches. Jaws are black, knurls and pins are plated.

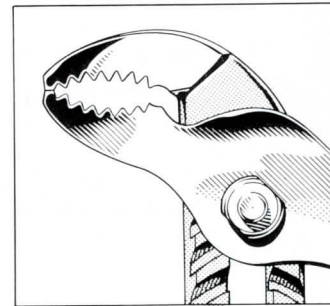
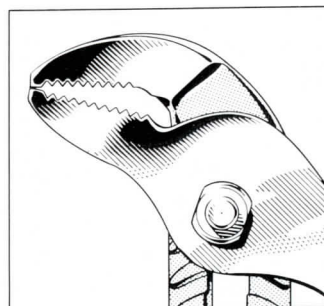
Cat. No.	N/S No.	Contents:			Shelf Pack
RP-AT	46152	2xAT14J	2xAT14K	2xAT14P-S	1
		3xAT16J	3xAT16K	3xAT16P-S	1
		3xAT18J	3xAT18K	3xAT18P-S	1
		3xAT110J	3xAT110K	3xAT110P-S	1
		3xAT112J	3xAT112K	3xAT112P-S	1



## Crescent tongue and groove pliers

Versatile utility pliers, ideal for objects of all shapes, including rods, pipes, hose and cable connections and many other mechanical devices. Drop-forged, precision machined from the finest quality tool steel. Hardened, tempered, polished. Heavy duty nut and bolt joint. Self-locking jaw opening adjustment. Long handles give powerful leverage. Fibre-impregnated plastisol grips provide a sure grip under any conditions.

Precision Milling: Ribs are precision milled to assure a smooth, positive interlock between the two halves plus heavy duty nut and bolt results in safe, sure action with no chance of halves separating or jumping out of grooves.



## Straight jaws



Cat. No.	N/S No.	Length "/mm	Jaw Width "/mm	No. of jaw positions	Weight oz/g	Shelf Pack
R27	46257	7/178	1 1/8/28	4	5.92/168	6
R27V	46258					
R27C	46259	7/178	1 1/8/28	4	7.04/200	6
R27CV	46260					
R210	46365	10/250	1 1/2/38	5	13.92/395	6
R210V	46366					
R210C	46367	10/250	1 1/2/38	5	15.04/426	6
R210CV	46368					
R212	46370	12/300	2 3/8/60	6	28.96/821	6
R212V	46371					3
R212C	46372	12/300	2 3/8/60	6	29.92/848	6
R212CV	46373					
R214C	46374	14/350	3 1/8/82	8	34.08/966	1
R220	46701	10/250	2 3/8/54	7	15.36/435	6
R220C	46703	10/250	2 3/8/54	7	15.36/435	6
R220CV	46704					

R27 and R210 conform to U.S. Fed. Spec. GGG-P-471C, Type II, Class 1, Style A.

## Curved jaws



Cat. No.	N/S No.	Length "/mm	Jaw Width "/mm	No. of jaw positions	Weight oz/g	Shelf Pack
R410	46467	10/250	1 1/2/38	5	12.00/340	6
R410V	46468					
R410C	46469	10/250	1 1/2/38	5	13.92/395	6
R410CV	46470					
R414C	46475	14/350	3 1/8/82	8	34.08/966	1

For replacement bolts and nuts for pliers, see price list, cat. nos. PBN 5, 6, 10, 27, 210, 212.

## Slip joint pliers

Drop-forged from carbon steel and accurately machined for best gripping and turning of round objects such as pipes, rods, studs, pins and connections. Although an all purpose tool they are available in thin nose, bent nose and heavy duty sizes as well as the regular combination series.

## Cee Tee Co.<sup>®</sup> combination



Drop-forged steel, hardened and tempered.  
Bright plated finish. Milled gripping teeth. Wire cutter. Knurled handles.

Cat. No.	N/S No.	Length "/mm	Width "/mm	Weight oz/g	Shelf Pack
H26	46248	6/150	1/25	8.00/227	12
H26V	46768				
H28	46264	8/200	1 1/4/32	9.60/272	12
H28V	46767				

## Motor kit<sup>®</sup> combination



Polished steel, chromium plated. Milled gripping teeth. Wire cutter. Knurled handles.

Cat. No.	N/S No.	Length "/mm	Width "/mm	Weight oz/g	Shelf Pack
G25	46240	5/125	3/4/19	4.00/113	6
G25V	46241				
G26	46246	6/150	1/25	8.00/227	6
G26V	46247				
G28	46262	8/200	1 1/4/32	9.28/263	6
G28V	46263				
G210	46361	10/250	1 1/2/38	16.00/454	6
G210V	46362				3

## Thin straight nose combination



Polished steel, chromium plated. Thin nose for use in tight places. Wire cutter. Milled gripping teeth. Knurled handles.

Cat. No.	N/S No.	Length "/mm	Width "/mm	Weight oz/g	Shelf Pack
L25	46243	5/125	3/4/19	4.00/113	6
L25V	46244				
L26	46251	6/150	1/25	6.40/181	6
L26V	46252				
L28	46265	8/200	1 1/4/32	8.64/245	6
L28V	46266				

Conforms to U.S. Fed. Spec. GGG-P-471C, Type II, Class 2, Style B.

## Thin bent nose combination



30° angle nose. Polished steel, chromium plated. Milled gripping teeth. Wire cutter. Knurled handles.

Cat. No.	N/S No.	Length "/mm	Width "/mm	Weight oz/g	Shelf Pack
J26	46249	6/150	1/25	7.04/200	6
J26V	46250				


Conforms to Fed. Spec. GGG-P-471C, Type II Class 3, Style B.



## Slip joint, side cutting




Polished steel, chromium plated. Side cutting wire cutter. Knurled handles. Milled gripping teeth.

Cat. No.	N/S No.	$\left  \overleftrightarrow{\text{---}} \right $ "/mm	 "/mm	oz/g	Shelf Pack
LS26	46253	6/150	1/25	7.04/200	6
LS26V	46254				

## Slip joint, side cutter



For heavy duty use. Polished head, black handles. Flush bolt. Milled gripping teeth.  $\frac{3}{8}$  in. induction hardened wire cutter.

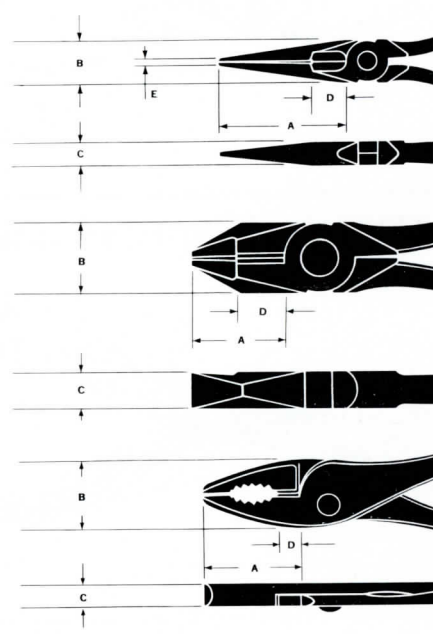
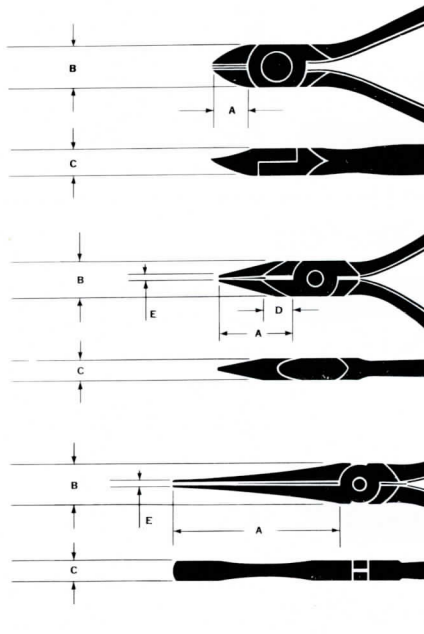
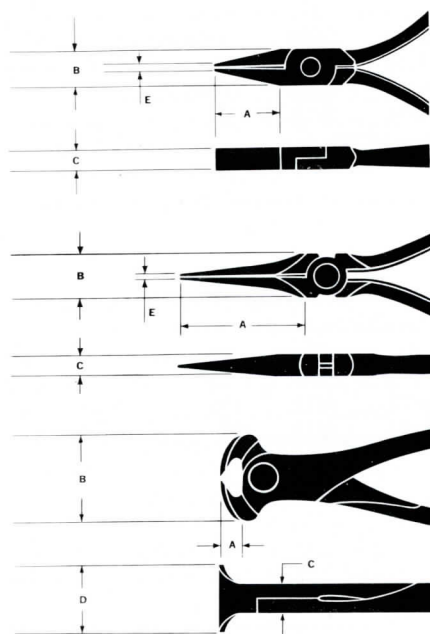
Cat. No.	N/S No.	$\left  \overleftrightarrow{\text{---}} \right $ "/mm	 "/mm	oz/g	Shelf Pack
923-7	46541	7/175	1 $\frac{1}{2}$ /38	10.40/295	6

For slip joint pliers replacement nuts and bolts, see price list, cat. nos. PBN 5, 6, 10, 27, 210, 212.

## Reference drawings for tool dimensions

Shown here are nine different types of "Crescent" pliers. To obtain exact dimensions on any pliers listed in this catalog, compare letters appearing in dimension line under pliers in question, with key provided here. In every instance, dimensions will appear under same letter.

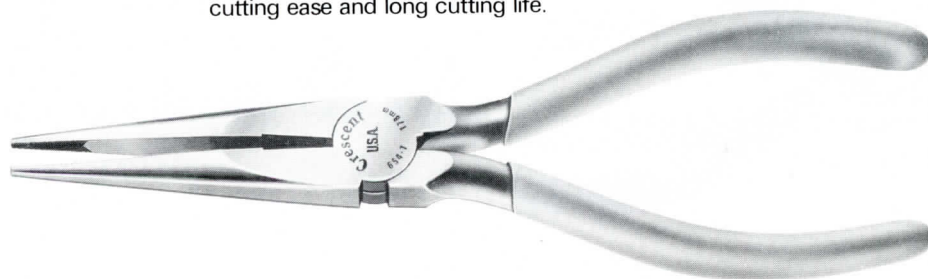
- (A) nose length
- (B) nose width
- (C) maximum thickness
- (D) cutter length
- (E) point dimensions



Beveled inside edges to guard against nicking or marring wire are standard on all Crescent long and chain nose pliers.

Cutting edges on Crescent cutting pliers are electronically induction hardened and hand honed. Nothing is left to chance, each is tested and inspected to ensure cutting ease and long cutting life.

Coil springs added between the handles keep the pliers handle in an open position reducing operator fatigue and speeding assembly-line production.



# Solid joint pliers

Solid joint pliers are all made from drop-forged alloy steel. Individually tested for strength and cutting ability. Cutting edges are electronically induction hardened and hand honed. All pliers are finished with polished heads. Most pliers available with red cushion grip handles (C) and spring opening (S).



## Short nose diagonal



Short nose for greater leverage and cutting at close quarters.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	oz/g	Shelf Pack
940-6	46543	6/150	9/16/14	11/16/17	7/8/11	6.88/195	6
940-6C	46544	6/150	9/16/14	11/16/17	7/8/11	6.88/195	6
940-6SC	46545	6/150	9/16/14	11/16/17	7/8/11	6.88/195	6

Conforms to Fed. Spec. GGG-P-471C, Type IV, Class 2.

## Midget semi-flush cutting



Fine tapered nose. Semi-flush or full-flush cutting edges.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	oz/g	Shelf Pack
941-4SC	46546	4/100	13/32/12	7/8/11	1/2/6	2.88/82	6
941-4SCE	46548	4/100	13/32/12	7/8/11	1/2/6	2.88/82	6

## Stainless steel diagonal cutting



Cutting edges machine ground to achieve a precise angle for continuous snap cutting. Designed for cutting and trimming circuit boards and lead wires on capacitors, resistors and other electronic components.

Maximum Cutting Specifications:

Soft, non-ferrous wire: .032" diameter

Half hard non-ferrous wire: .020" diameter

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
200SCEB	46359	4/100	13/32/12	7/8/11	3/2/6	3/2/7	2.72/77	6



## Midget and standard diagonal



Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	oz/g	Shelf Pack
<b>Round joint design</b>							
942-4	46550	4/100	1/13	7/16/11	1/6	2.88/82	6
942-4C	46551	4/100	1/13	7/16/11	1/6	3.04/86	6
942-4CV	46552	4/100	1/13	7/16/11	1/6	2.88/82	6
942-4SC	46553	4/100	1/13	7/16/11	1/6	2.88/82	6
942-4 1/2 SC	46555	4 1/2/113	1 1/8/17	1 1/2/12	1 1/2/9	4.00/113	6
<b>Square joint design</b>							
942-5	46557	5/125	1 1/8/17	9/16/14	3/8/10	4.00/113	6
942-5C	46559	5/125	1 1/8/17	9/16/14	3/8/10	4.00/113	6
942-5CV	46560	5/125	1 1/8/17	9/16/14	3/8/10	4.48/127	6
942-5SC	46561	5/125	1 1/8/17	9/16/14	3/8/10	4.48/127	6
942-6	46563	6/150	3/2/21	1 1/8/17	7/8/11	5.92/168	6
942-6V	46565	6/150	3/2/21	1 1/8/17	7/8/11	5.92/168	6
942-6C	46566	6/150	3/2/21	1 1/8/17	7/8/11	5.92/168	6
942-6I	46564	6/150	3/2/21	1 1/8/17	7/8/11	5.92/168	6
942-6CV	46567	6/150	3/2/21	1 1/8/17	7/8/11	5.92/168	6
942-6SC	46568	6/150	3/2/21	1 1/8/17	7/8/11	5.92/168	6

Conforms to U.S. Fed. Spec. GGG-P-00468, Type I, Class 1.

## Diagonal full-flush cutting



Tapered nose with back clearance for use in confined areas. Full flush edges with back taper at extreme tip. Ideal for printed circuit and other electronic applications.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	oz/g	Shelf Pack
946-4 1/2 SCE	46571	4 1/2/113	1 1/8/17	1 1/2/12	1 1/2/9	4.00/113	6

## Diagonal cutting



Full flush edges with back clearance. Very fine tapered nose with back taper at extreme tip for close cutting No. 24 gauge (.020" dia.) and smaller soft copper wire. Ideal for delicate electronic circuitry work.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
951-4SCE	46573	4/100	1 1/2/12	7/8/11	1/6	1 1/2/10	2.88/82	6

## Special slim nose diagonal



Designed for tip cutting in close quarters. Semi-flush cutting edges.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
943-5SC	46569	5/125	1 1/8/17	5/8/16	3/8/10	1 1/8/17	4.48/127	6

## Heavy diagonal cutting



Powerful cutting pliers. Full fashioned handles for maximum leverage. Will cut BX armored cable.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	oz/g	Shelf Pack
742-7	46519	7/175	3/19	5/22	3/13	10.80/306	6
742-7C	46520	7/175	3/19	5/22	3/13	10.80/306	6

Conforms to U.S. Fed. Spec. GGG-P-00468, Type I, Class 1.

## Heavy duty diagonal cutting



Designed for cutting heavy wire. Long lasting cutting edges. Handle designed for comfortable grip.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	oz/g	Shelf Pack
542-7	46478	7/175	3 3/8/20	1 3/2/31	7/8/11	8.96/254	6
542-7V	46479						
542-7I	46690						
542-7C	46480	7/175	3 3/8/20	1 3/2/31	7/8/11	8.96/254	6
542-7CV	46481						
542-8	46482	8/200	1 3/8/20	1 3/2/31	1/13	12.00/340	6
542-8C	46483	8/200	1 3/8/20	1 3/2/31	1/13	12.00/340	6
542-8I	46860						

Conforms to U.S. Fed. Spec. GGG-P-00468, Type III.

## Long chain nose side cutting



Long nose reaches into tight places. Fine serrated jaws.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	E "/mm	oz/g	Shelf Pack
654-5 1/2	46496	5 1/2/140	1 3/4/44	1 3/2/13	3/2/7	1 3/2/10	1/8/1 dia	4.00/113	6
654-5 1/2 SC	46497	5 1/2/140	1 3/4/44	1 3/2/13	3/2/7	1 3/2/10	1/8/1 dia	4.00/113	6
654-6	46499	6/150	1 5/8/48	1 1/8/17	3/8/10	1/2/13	3/2 x 3/2/2x2	6.08/172	6
654-6V	46500								
654-6I	46691								
654-6C	46501	6/150	1 5/8/48	1 1/8/17	3/8/10	1/2/13	3/2 x 3/2/2x2	6.08/172	6
654-6CV	46502								
654-6SC	46503	6/150	1 5/8/48	1 1/8/17	3/8/10	1/2/13	3/2 x 3/2/2x2	6.08/172	6
654-7	46504	7/175	2 3/4/67	3/19	3/8/10	1/2/13	5/2 x 3/2/4x2	7.04/200	6
654-7V	46505								
654-7I	46692								
654-7C	46506	7/175	2 3/4/67	3/19	3/8/10	1/2/13	5/2 x 3/2/4x2	7.04/200	6
654-7CV	46507								
654-7SC	46508	7/175	2 3/4/67	3/19	3/8/10	1/2/13	5/2 x 3/2/4x2	8.64/245	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type XI, Class 1, Style A.

## Midget chain nose



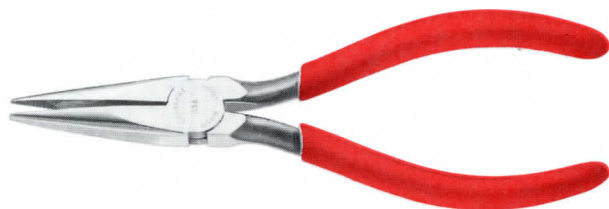
Slim, streamlined pliers with fine serrations or plain jaws. Excellent for miniature electronic work. For plain jaws specify "P."

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	oz/g	Shelf Pack
25-4 1/2 SC	46236	4 1/2/114	1 3/2/28	7/8/11	1/6	.046 x 1/8/1x1	3.20/91	6
25-4 1/2 SCP	46238	4 1/2/114	1 3/2/28	7/8/11	1/6	.046 x 1/8/1x1	3.20/91	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type XI, Class 1, Style B.



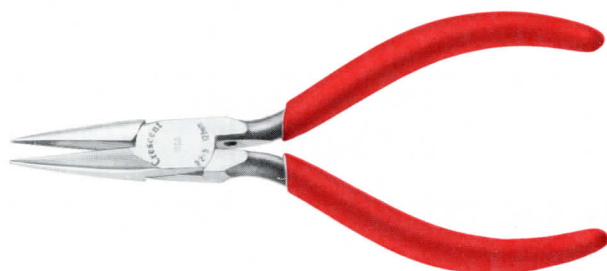
## Long chain nose



Makes loops and bends of various size wire. Ideal for radio, telephone and other electronic work. Long nose reaches into tight places. Fine serrated jaws.

Cat. No.	N/S No.	←→ "/mm	A "/mm	B "/mm	C "/mm	E "/mm	oz/g	Shelf Pack
1033-5 $\frac{1}{2}$ SC	46579	5 $\frac{1}{2}$ /140	1 $\frac{3}{4}$ /44	1 $\frac{1}{2}$ /13	$\frac{3}{2}$ /7	$\frac{1}{8}$ /1 dia	4.48/127	6
1033-6	46581	6/150	1 $\frac{7}{8}$ /48	1 $\frac{1}{8}$ /17	$\frac{3}{8}$ /10	$\frac{3}{2}$ /2	5.92/168	6
1033-6V	46582							
1033-6C	46583	6/150	1 $\frac{7}{8}$ /48	1 $\frac{1}{8}$ /17	$\frac{3}{8}$ /10	$\frac{3}{2}$ /2	5.92/168	6
1033-6CV	46584							
1033-6SC	46585	6/150	1 $\frac{7}{8}$ /48	1 $\frac{1}{8}$ /17	$\frac{3}{8}$ /10	$\frac{3}{2}$ /2	6.08/172	6
1033-7	46586	7/175	2 $\frac{1}{2}$ $\frac{1}{2}$ /67	$\frac{3}{4}$ /19	$\frac{3}{8}$ /10	$\frac{5}{2}$ x $\frac{3}{2}$ /4x2	7.04/200	6
1033-7C	46588	7/175	2 $\frac{1}{2}$ $\frac{1}{2}$ /67	$\frac{3}{4}$ /19	$\frac{3}{8}$ /10	$\frac{5}{2}$ x $\frac{3}{2}$ /4x2	7.04/200	6
1033-7CV	46589							
1033-7SC	46590	7/175	2 $\frac{1}{2}$ $\frac{1}{2}$ /67	$\frac{3}{4}$ /19	$\frac{3}{8}$ /10	$\frac{5}{2}$ x $\frac{3}{2}$ /4x2	7.04/200	6

## Short chain nose



Designed for fine, close electrical and mechanical work. Ideal for electricians, jewelers, opticians and hobbyists. Serrated jaws.

Cat. No.	N/S No.	←→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
22-4SC	46226	4/100	1 $\frac{1}{8}$ /27	$\frac{1}{2}$ $\frac{5}{8}$ /12	$\frac{1}{4}$ /6	.046x $\frac{3}{4}$ /1x1	3.04/86	6
22-5	46228	5/125	1 $\frac{5}{8}$ /29	$\frac{1}{2}$ /13	$\frac{5}{8}$ /8	$\frac{1}{8}$ /1 dia	3.52/100	6
22-5C	46231	5/125	1 $\frac{5}{8}$ /29	$\frac{1}{2}$ /13	$\frac{5}{8}$ /8	$\frac{1}{8}$ /1 dia	3.52/100	6
22-5CV	46231							
22-5SC	46232	5/125	1 $\frac{5}{8}$ /29	$\frac{1}{2}$ /13	$\frac{5}{8}$ /8	$\frac{1}{8}$ /1 dia	4.00/113	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type XI, Class 2, Style B.

## Short chain nose side cutting

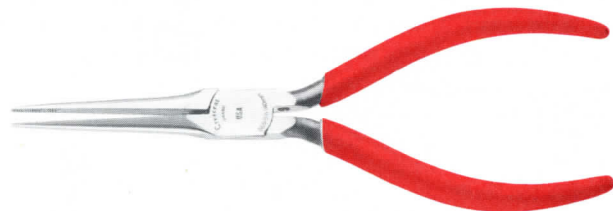


Short nose ground to fine point. Fine serrations.

Cat. No.	N/S No.	←→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	E "/mm	oz/g	Shelf Pack
622-5	46486	5/125	1 $\frac{5}{8}$ /29	$\frac{9}{16}$ /14	1 $\frac{1}{2}$ /9	1 $\frac{3}{2}$ /10	$\frac{3}{2}$ x $\frac{5}{2}$ /2x4	4.00/113	6
622-5C	46488	5/125	1 $\frac{5}{8}$ /29	$\frac{9}{16}$ /14	1 $\frac{1}{2}$ /9	1 $\frac{3}{2}$ /10	$\frac{3}{2}$ x $\frac{5}{2}$ /2x4	4.00/113	6
622-5CV	46489								
622-5SC	46490	5/125	1 $\frac{5}{8}$ /29	$\frac{9}{16}$ /14	1 $\frac{1}{2}$ /9	1 $\frac{3}{2}$ /10	$\frac{3}{2}$ x $\frac{5}{2}$ /2x4	4.00/113	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type XI, Class 2, Style A.

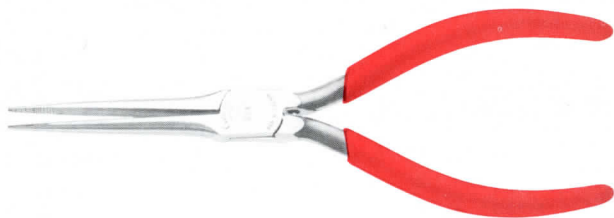
## Very fine needle nose



Fine serrations on jaws. Slightly beveled inside edges.

Cat. No.	N/S No.	←→ "/mm	A "/mm	B "/mm	C "/mm	E "/mm	oz/g	Shelf Pack
665-5 $\frac{1}{2}$ SC	46509	5 $\frac{1}{2}$ /140	1 $\frac{3}{8}$ /46	1 $\frac{1}{2}$ /12	$\frac{1}{4}$ /6	.072/1.829 dia	3.36/95	6

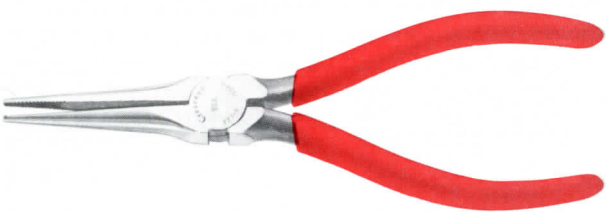
## Extra thin long needle nose



Spring tempered jaws, precision machined to  $\frac{1}{16}$ " / 1.58mm at extreme tip.  $4\frac{1}{2}$ " / 114mm size available with plain jaws only. 6" / 152mm size available with serrated jaws only. Slightly beveled inside edges.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	oz/g	Shelf Pack
666-4 $\frac{1}{2}$ SCP	46511	4 $\frac{1}{2}$ /114	1 $\frac{3}{4}$ /28	$\frac{7}{16}$ /11	$\frac{1}{4}$ /6	.046x $\frac{1}{16}$ /1x1	3.36/95	6
666-6	46513	6/150	2 $\frac{1}{4}$ /57	$\frac{11}{16}$ /12	$\frac{1}{4}$ /6	$\frac{1}{16}$ dia/1	4.00/113	6
666-6C	46515							
666-6CV	46516	6/150	2 $\frac{1}{4}$ /57	$\frac{11}{16}$ /12	$\frac{1}{4}$ /6	$\frac{1}{16}$ dia/1	4.00/113	6
666-6SC	46517	6/150	2 $\frac{1}{4}$ /57	$\frac{11}{16}$ /12	$\frac{1}{4}$ /6	$\frac{1}{16}$ dia/1	4.00/113	6

## Long needle nose

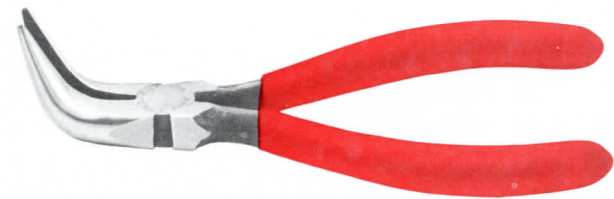


Long thin nose has excellent gripping ability for use in tight, narrow places.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	oz/g	Shelf Pack
777-6	46528							
777-6V	46529	6/150	2 $\frac{1}{8}$ /52	$\frac{11}{16}$ /17	$\frac{11}{16}$ /9	$\frac{1}{8}$ x $\frac{3}{16}$ /3x2	4.00/113	6
777-6C	46530							
777-6CV	46531	6/150	2 $\frac{1}{8}$ /52	$\frac{11}{16}$ /17	$\frac{11}{16}$ /9	$\frac{1}{8}$ x $\frac{3}{16}$ /3x2	4.00/113	6
777-6SC	46532	6/150	2 $\frac{1}{8}$ /52	$\frac{11}{16}$ /17	$\frac{11}{16}$ /9	$\frac{1}{8}$ x $\frac{3}{16}$ /3x2	4.96/141	6
777-7	46533							
777-7V	46534	7/175	2 $\frac{1}{8}$ /68	$\frac{11}{16}$ /17	$\frac{7}{8}$ /8	$\frac{5}{16}$ x $\frac{3}{16}$ /4x2	6.24/177	6
777-7C	46535							
777-7CV	46536	7/175	2 $\frac{1}{8}$ /68	$\frac{11}{16}$ /17	$\frac{7}{8}$ /8	$\frac{5}{16}$ x $\frac{3}{16}$ /4x2	6.24/177	6
777-7SC	46537	7/175	2 $\frac{1}{8}$ /68	$\frac{11}{16}$ /17	$\frac{7}{8}$ /8	$\frac{5}{16}$ x $\frac{3}{16}$ /4x2	6.40/181	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type XII, Class 2, Style A.

## Curved needle nose

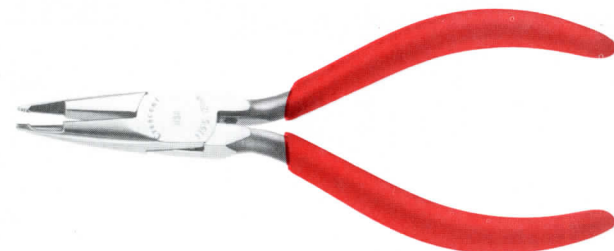


Thin bent nose for working in out-of-the-way corners. Tempered jaws, will not break off, always returns to normal when pressure is released.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	oz/g	Shelf Pack
888-6	46538	6/150	1/25	$\frac{11}{16}$ /17	$\frac{3}{8}$ /10	$\frac{3}{16}$ /2	6.72/191	6
888-6C	46539	6/150	1/25	$\frac{11}{16}$ /17	$\frac{3}{8}$ /10	$\frac{3}{16}$ /2	6.72/191	6
888-6SC	46540	6/150	1/25	$\frac{11}{16}$ /17	$\frac{3}{8}$ /10	$\frac{3}{16}$ /2	6.72/191	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type XIII, Class 1.

## Tip cutter wiring



For delicate, intricate assembly work. Finely serrated tips will not mar or nick wire. Cutting edges near tip for snap cutting the finest solid or stranded copper wire.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	E "/mm	oz/g	Shelf Pack
775-4 $\frac{1}{2}$ SC	46521	4 $\frac{1}{2}$ /114	1 $\frac{3}{4}$ /28	$\frac{7}{16}$ /11	$\frac{1}{4}$ /6	$\frac{5}{16}$ /4	$\frac{3}{16}$ x $\frac{3}{16}$ /1x2	2.72/77	6



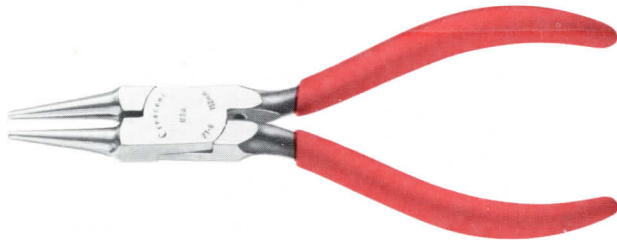
## Short nose tip cutting



30° angle tip cutter with semi-flush edge for cutting in restricted areas in electronic components and for trimming printed circuit boards.

Cat. No.	N/S No.	←→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	E "/mm	oz/g	Shelf Pack
27-4½SC	46255	4½/114	1/25	7/8/11	¼/6	3/8/6	—	3.20/91	6

## Round nose wire loop

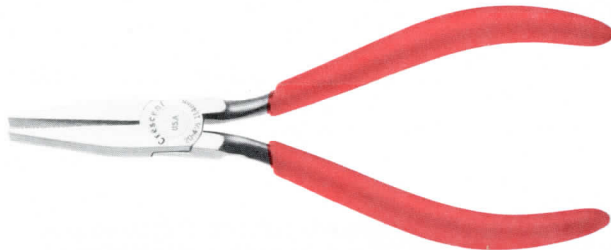


Both sides of nose are carefully rounded. Precision ground to small point. Useful for looping and forming fine wire.

Cat. No.	N/S No.	←→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
21-4½SC	46220	4½/114	7/8/22	1½/12	1½/6	3/4/1	3.20/91	6
21-6	46222	6/150	1¾/35	¾/16	1¾/10	3/2/2	5.12/146	6
21-6C	46223	6/150	1¾/35	¾/16	1¾/10	3/2/2	4.45/126	6
21-6CV	46224	6/150	1¾/35	¾/16	1¾/10	3/2/2	5.12/145	6
21-6SC	46225	6/150	1¾/35	¾/16	1¾/10	3/2/2	5.12/145	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type X.

## Short flat nose

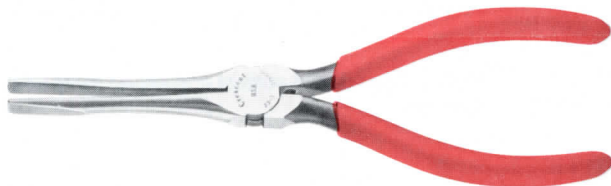


Light pliers for fine work. Plain jaws.

Cat. No.	N/S No.	←→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
20-4½SCP	46218	4½/114	1¾/28	7/8/11	¼/6	1½/4/1x6	3.36/95	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type V, Class 1.

## Duck bill

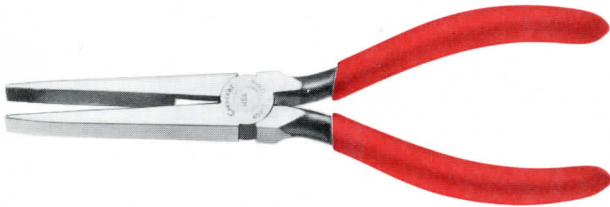


The long thin jaws will reach into narrow places. Plain jaws.

Cat. No.	N/S No.	←→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
23-7	46233	7/175	2½/68	1½/17	1½/9	5/8x1½/2x9	6.08/172	6
23-7C	46234	7/175	2½/68	1½/17	1½/9	5/8x1½/2x9	6.08/172	6
23-7SC	46235	7/175	2½/68	1½/17	1½/9	5/8x1½/2x9	6.08/172	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type XV, Class 1 and 2.

## Long flat nose



Long and thin, flat nose and keen cutting edge. Ideal for automobile radiator repair and textile knitting machine work.

Cat. No.	N/S No.	←L→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	E "/mm	oz/g	Shelf Pack
650-7	46491	7/175	2 $\frac{9}{16}$ /65	1 $\frac{1}{8}$ /17	$\frac{3}{8}$ /10	$\frac{1}{2}$ /13	1 $\frac{1}{8}$ x $\frac{3}{8}$ /1x10	7.36/209	6
650-7C	46493								
650-7CV	46494	7/175	2 $\frac{9}{16}$ /65	1 $\frac{1}{8}$ /17	$\frac{3}{8}$ /10	$\frac{1}{2}$ /13	1 $\frac{1}{8}$ x $\frac{3}{8}$ /1x10	7.36/209	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type V, Class 3, Style B.

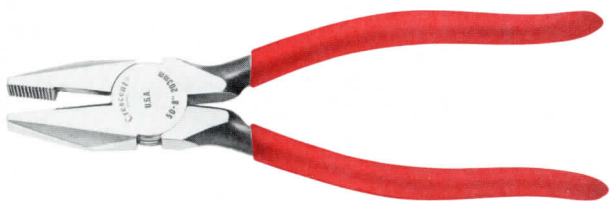
## Lineman's pliers

Solid joint lineman's pliers are made of drop-forged steel with polished heads and gun metal handles. Durable, keen cutting edges. Available with either red cushion grips or Tenite grips.

Crescent lineman's pliers can be supplied with insulating grips made of Tenite. Tests have shown this material to be highly suitable for this purpose. It has a high dielectric value and we recommend pliers to which it has been applied to those who have need for insulated tools. Available on all lineman's pliers. Specify the letter "T" after the tool number when ordering (i.e. 50-7T).



## Side cutting



A sturdy tool for electrical work. Keen edged cutters and spring tempered handles. For general purpose use.

Cat. No.	N/S No.	←L→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
50-6	46272							
50-6V	46273	6/150	1 $\frac{3}{32}$ /28	$\frac{7}{8}$ /22	$\frac{1}{2}$ /13	$\frac{9}{16}$ /14	6.40/181	6
50-6C	46274							
50-6CV	46275	6/150	1 $\frac{3}{32}$ /28	$\frac{7}{8}$ /22	$\frac{1}{2}$ /13	$\frac{9}{16}$ /14	6.88/195	6
50-6T	46661	6/150	1 $\frac{3}{32}$ /28	$\frac{7}{8}$ /22	$\frac{1}{2}$ /13	$\frac{9}{16}$ /14	6.88/195	6
50-7	46276							
50-7V	46277	7/175	1 $\frac{9}{32}$ /33	1/25	$\frac{1}{2}$ /13	$\frac{5}{8}$ /16	9.44/268	6
50-7C	46278							
50-7CV	46279	7/175	1 $\frac{9}{32}$ /33	1/25	$\frac{1}{2}$ /13	$\frac{5}{8}$ /16	9.92/281	6
50-7T	46858	7/175	1 $\frac{9}{32}$ /33	1/25	$\frac{1}{2}$ /13	$\frac{5}{8}$ /16	9.92/281	6
50-8	46280							
50-8V	46281	8/200	1 $\frac{1}{2}$ /37	1 $\frac{1}{8}$ /28	$\frac{9}{16}$ /14	$\frac{3}{4}$ /19	12.96/367	6
50-8C	46282							
50-8CV	46283	8/200	1 $\frac{1}{2}$ /37	1 $\frac{1}{8}$ /28	$\frac{9}{16}$ /14	$\frac{3}{4}$ /19	13.92/395	6
50-8T	46859	8/200	1 $\frac{1}{2}$ /37	1 $\frac{1}{8}$ /28	$\frac{9}{16}$ /14	$\frac{3}{4}$ /19	13.92/395	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type IX, Class 1.



## Heavy duty side cutting



Designed especially to meet the requirements of linemen. Cuts many gauges of wire.

Cat. No.	N/S No.	Length " /mm	A " /mm	B " /mm	C " /mm	D " /mm	oz/g	Shelf Pack
1950-6	46595	6/150	1 3/8/28	1/25	1/2/13	9/16/14	8.00/277	6
1950-6C	46597							
1950-6CV	46598	6/150	1 3/8/28	1/25	1/2/13	9/16/14	8.48/240	6
1950-6T	46693	6/150	1 3/8/28	1/25	1/2/13	9/16/14	8.48/240	6
1950-7	46599	7/175	1 3/8/33	1 1/8/29	.520/14	1 1/8/17	10.40/295	6
1950-7C	46601							
1950-7CV	46602	7/175	1 3/8/33	1 1/8/29	.520/14	1 1/8/17	10.56/299	6
1950-7T	46664	7/175	1 3/8/33	1 1/8/29	.520/14	1 1/8/17	10.56/299	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type IX, Class 1.

## Heavy duty high leverage side cutting



Designed especially to meet the requirements of linemen. Cuts many gauges of wire.

Cat. No.	N/S No.	Length " /mm	A " /mm	B " /mm	C " /mm	D " /mm	oz/g	Shelf Pack
1950-8	46603							
1950-8V	46604	8/200	1 1/2/38	1/29	5/8/16	3/4/19	15.04/426	6
1950-8C	46605							
1950-8CV	46606	8/200	1 1/2/38	1/29	5/8/16	3/4/19	15.04/426	6
1950-8T	46665							
1950-8I	46607	8/200	1 1/2/38	1/29	5/8/16	3/4/19	15.04/426	6

Conforms to U.S. Fed. Spec. GGG-P-471d, Type IX, Class 1.

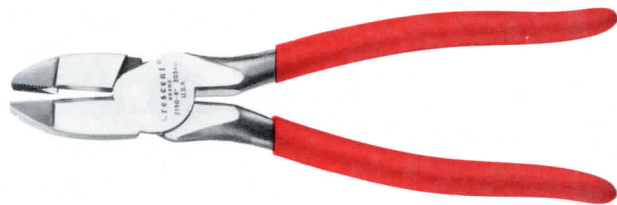
## Lineman's high leverage



Streamlined head – slides easily in and out of belt loops. Cutters are hand honed so that they cut cleanly and stay sharp.

Cat. No.	N/S No.	Length " /mm	A " /mm	B " /mm	C " /mm	D " /mm	oz/g	Shelf Pack
2050-9	46608	9/225	1 3/8/40	1 3/8/33	5/8/16	1 1/8/21	18.72/531	6
2050-9C	46609							
2050-9CV	46825	9/225	1 3/8/40	1 3/8/33	5/8/16	1 1/8/21	19.04/540	6
2050-9T	46666	9/225	1 3/8/40	1 3/8/33	5/8/16	1 1/8/21	19.04/540	6

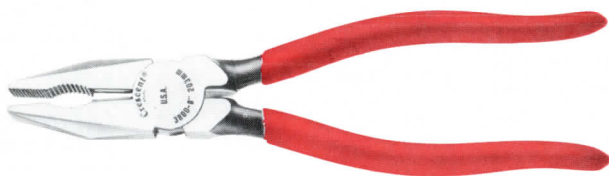
## Lineman's high leverage round nose



Streamlined design. Slides freely in and out of belt loops. Light in weight without sacrificing strength. Hand honed edges cut cleanly and retain sharpness.

Cat. No.	N/S No.	Length " /mm	A " /mm	B " /mm	C " /mm	D " /mm	oz/g	Shelf Pack
2150-8	46627	8/200	1 7/8/37	1 3/8/30	5/8/16	3/4/19	18.08/513	6
2150-8C	46628	8/200	1 7/8/37	1 3/8/30	5/8/16	3/4/19	18.08/513	6
2150-8T	46667	8/200	1 7/8/37	1 3/8/30	5/8/16	3/4/19	18.08/513	6

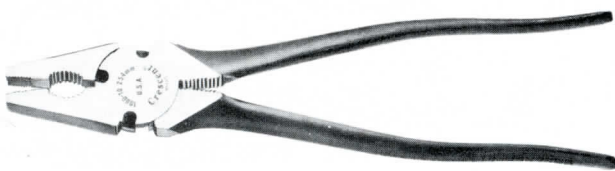
## Universal cutting



A tool for general use. Has a flat nose with teeth for gripping. Keen side cutter. Pipe grip in nose.

Cat. No.	N/S No.	←L→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
3800-6	46668	6/150	1 $\frac{1}{2}$ /34	$\frac{7}{8}$ /22	$\frac{1}{2}$ /12	$\frac{7}{8}$ /11	8.00/227	6
3800-6C	46669	6/150	1 $\frac{1}{2}$ /34	$\frac{7}{8}$ /22	$\frac{1}{2}$ /12	$\frac{7}{8}$ /11	8.48/240	6
3800-6T	46670	6/150	1 $\frac{1}{2}$ /34	$\frac{7}{8}$ /22	$\frac{1}{2}$ /12	$\frac{7}{8}$ /11	9.33/265	6
3800-7	46671	7/175	1 $\frac{1}{2}$ /39	1/25	$\frac{1}{2}$ /13	$\frac{1}{2}$ /13	10.72/304	6
3800-7C	46672	7/175	1 $\frac{1}{2}$ /39	1/25	$\frac{1}{2}$ /13	$\frac{1}{2}$ /13	10.72/304	6
3800-7T	46861	7/175	1 $\frac{1}{2}$ /39	1/25	$\frac{1}{2}$ /13	$\frac{1}{2}$ /13	12.00/340	6
3800-8	46674	8/200	1 $\frac{3}{4}$ /44	1 $\frac{1}{8}$ /27	$\frac{1}{2}$ /13	$\frac{5}{8}$ /14	14.40/408	6
3800-8C	46675	8/200	1 $\frac{3}{4}$ /44	1 $\frac{1}{8}$ /27	$\frac{1}{2}$ /13	$\frac{5}{8}$ /14	15.04/426	6
3800-8T	46862	8/200	1 $\frac{3}{4}$ /44	1 $\frac{1}{8}$ /27	$\frac{1}{2}$ /13	$\frac{5}{8}$ /14	15.36/435	6

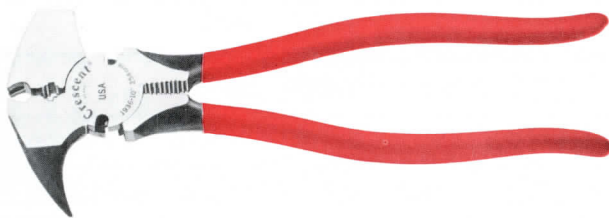
## Button pliers fence tool



Flat nose style, with three wire cutters, pipe grip and teeth in extreme tip of nose. Excellent for construction and maintenance of wire fencing.

Cat. No.	N/S No.	←L→ "/mm	A "/mm	B "/mm	C "/mm	oz/g	Shelf Pack
1000-8	46575	8/200	1 $\frac{3}{4}$ /33	1 $\frac{3}{8}$ /35	$\frac{3}{4}$ /14	15.04/426	6
1000-10	46576	10/250	1 $\frac{1}{2}$ /38	1 $\frac{1}{8}$ /37	$\frac{3}{8}$ /16	20.64/585	6
1000-12	46577	12/300	1 $\frac{1}{2}$ /38	1 $\frac{3}{8}$ /40	$\frac{1}{2}$ /17	32.96/934	6

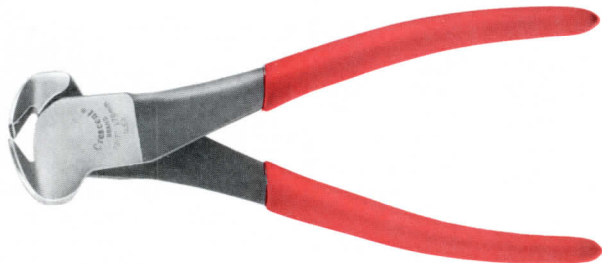
## Heavy duty fence tool



Has corrugated hammer head, two wire cutters, two staple grips in nose and wire grip between handles for stretching wire. Heavy prong on head gets in behind rusty staples and pulls them easily. Both wire and staple can be gripped together by special opening in head of tool. Cutter capacity:  $\frac{3}{32}$ " / 5.5mm.

Cat. No.	N/S No.	←L→ "/mm	A "/mm	B "/mm	C "/mm	oz/g	Shelf Pack
1936-10	46591	10/250	1 $\frac{1}{8}$ /27	3 $\frac{3}{8}$ /91	$\frac{1}{2}$ /15	24.96/708	6
1936-10V	46592						
1936-10C	46593	10/250	1 $\frac{1}{8}$ /27	3 $\frac{3}{8}$ /91	$\frac{1}{2}$ /15	27.04/767	6
1936-10CV	46594						

## End cutting nippers



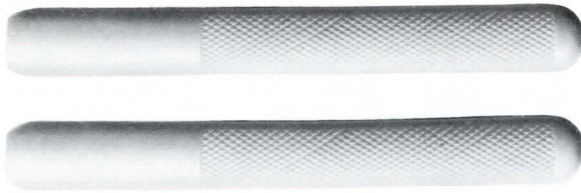
Width of blades, clearance in throat, leverage ratio of handles to blades, size of rivet and angle of cutting edges have been carefully designed to produce a top quality tool.

Cat. No.	N/S No.	←L→ "/mm	A "/mm	B "/mm	C "/mm	D "/mm	oz/g	Shelf Pack
72-6	46289	6/150	$\frac{3}{8}$ /10	1 $\frac{7}{8}$ /37	$\frac{1}{2}$ /12	1 $\frac{1}{8}$ /27	8.00/227	6
72-6V	46290							
72-6C	46291	6/150	$\frac{3}{8}$ /10	1 $\frac{7}{8}$ /37	$\frac{1}{2}$ /12	1 $\frac{1}{8}$ /27	8.96/254	6
72-6CV	46292							
72-7	46293	7/175	$\frac{3}{8}$ /10	1 $\frac{9}{8}$ /40	$\frac{1}{2}$ /13	1 $\frac{3}{8}$ /30	12.00/340	6
72-7V	46294							
72-7C	46295	7/175	$\frac{3}{8}$ /10	1 $\frac{9}{8}$ /40	$\frac{1}{2}$ /13	1 $\frac{3}{8}$ /30	12.00/340	6
72-7CV	46296							
72-8	46297	8/200	$\frac{3}{8}$ /10	1 $\frac{3}{4}$ /44	$\frac{1}{2}$ /13	1 $\frac{3}{8}$ /30	16.00/454	6
72-8V	46298							
72-8C	46299	8/200	$\frac{3}{8}$ /10	1 $\frac{3}{4}$ /44	$\frac{1}{2}$ /13	1 $\frac{3}{8}$ /30	16.00/454	6
72-8CV	46300							
72-9	46740	9/225	$\frac{1}{2}$ /11	1 $\frac{7}{8}$ /46	$\frac{1}{2}$ /15	1 $\frac{1}{2}$ /32	16.96/481	6
72-9C	46741	9/225	$\frac{1}{2}$ /11	1 $\frac{7}{8}$ /46	$\frac{1}{2}$ /15	1 $\frac{1}{2}$ /32	16.96/481	6
72-9CV	46766							

Conforms to U.S. Fed. Spec. GGG-N-350A, Type 1, Class 2, Style A.



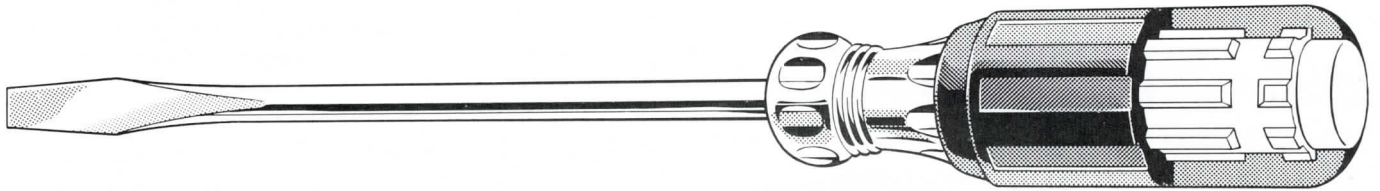
## Tenite grips for solid joint lineman's pliers



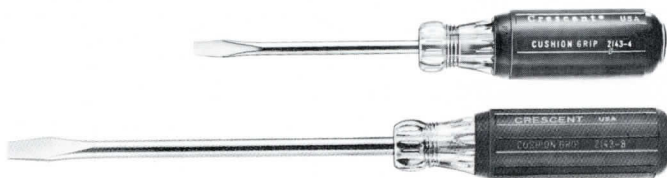
Cat. No.	N/S No.	←L→  "/mm
6IN	46160	6/150
7IN	46210	7/177
8IN	46164	8/200
9IN	46856	9/225


## Cushion grip screwdrivers

Cushion grip handles are made of genuine PVC vinyl and have patented interlocking non-slip grip. Oversized handles assure better grip and more turning power. Heavy duty steel alloy chrome plated blades have precision crossground flats and edges.



## Mechanic's round




Cat. No.	N/S No.	←L→  "/mm	 "/mm	←L→  "/mm	oz/g	Shelf Pack
2143-3	46614	3/76	$\frac{7}{32}$ /5.5	$6\frac{5}{8}$ /160	4.32/122	6
2143-3V	46615					
2143-4	46616	4/100	$\frac{1}{4}$ /6	$7\frac{1}{4}$ /197	4.48/127	6
2143-4V	46617					
2143-6	46618	6/150	$\frac{5}{16}$ /8	$10\frac{1}{2}$ /267	6.40/181	6
2143-6V	46619					
2143-8	46620	8/200	$\frac{3}{8}$ /10	13/330	9.60/272	6
2143-8V	46621					
2143-10	46622	10/250	$\frac{3}{8}$ /10	15/381	10.72/304	6
2143-10V	46623					
2143-12	46624	12/300	$\frac{3}{8}$ /10	17/431	11.68/331	6
2143-12V	46626					

Conforms to U.S. Fed. Spec. GGG-S-121d, Type 1, Class 5, Style 1, Design B Shape A, with cushion grip.

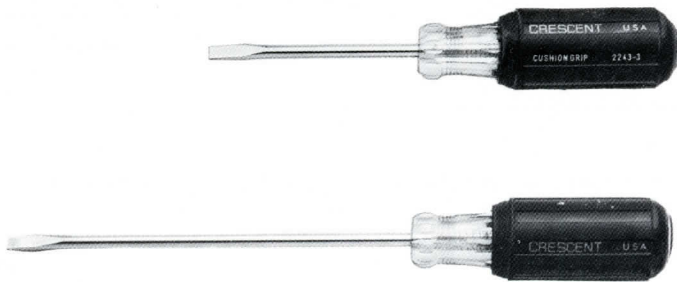
## Mechanic's square






Cat. No.	N/S No.	←L→  "/mm	 "/mm	←L→  "/mm	oz/g	Shelf Pack
2343-4	46643	4/100	$\frac{1}{4}$ /6	$7\frac{3}{4}$ /184	4.48/127	6
2343-4V	46644					
2343-6	46645	6/150	$\frac{5}{16}$ /8	$10\frac{1}{2}$ /267	4.80/136	6
2343-6V	46646					
2343-8	46647	8/200	$\frac{3}{8}$ /10	13/330	10.93/310	6
2343-8V	46648					
2343-12	46649	12/300	$\frac{3}{8}$ /10	17/431	14.40/408	6

Conforms to U.S. Fed. Spec. GGG-S-121d, Type 1, Class 5, Style 1, Design B, with cushion grip.

## Electrician's round






Cat. No.	N/S No.				oz/g	Shelf Pack
2142-4	46610	4/100	1/8	7 3/8/196	4.80/136	6
2142-4V	46611					
2142-6	46612	6/150	1/8	9 3/8/247	5.33/151	6
2142-6V	46613					
2243-3	46629	3/76	3/16	6 5/8/160	2.88/82	6
2243-3V	46630					
2243-4	46631	4/100	3/16	7 5/8/185	3.20/91	6
2243-4V	46632					
2243-6	46633	6/150	3/16	9 5/8/236	3.47/98	6
2243-6V	46634					
2243-8	46635	8/200	3/8	11 5/8/287	3.73/106	6
2243-8V	46636					
2243-10	46637	10/250	3/8	13 5/8/338	4.00/113	6
2243-10V	46638					

No. 2243 conforms to U.S. Fed. Spec. GGG-S-121d, Type 1, Class 1, Style 2, Design B, with cushion grip.

## Insulated special electrician's




Additional sizes available to order.



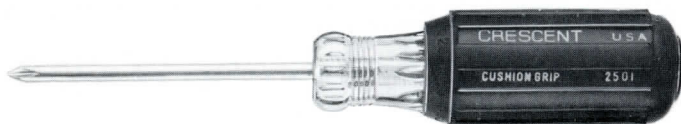
Cat. No.	N/S No.				oz/g	Shelf Pack
2401-3	46678	3/76	3/16	6 5/8/160	2.33/66	6
2401-4	46679	4/100	1/8	7 3/8/197	3.93/112	6
2401-6	46680	6/150	1/8	10 1/2/267	6.31/179	6
2401-8	46681	8/200	3/8	13/330	8.98/255	6




## Square shank stubby



Cat. No.	N/S No.				oz/g	Shelf Pack
2343-1 1/2	46641	1 1/2/32	1/8	3 1/8/79	2.00/57	6
2343-1 1/2V	46642					

## Genuine Phillips






Cat. No.	N/S No.	Point size				oz/g	Shelf Pack
2501	46651	no. 1	3/76	3/16	6 5/8/160	2.88/82	6
2501V	46652						
2502	46653	no. 2	4/100	1/8	7 3/8/197	4.80/136	6
2502V	46654						
2503	46655	no. 3	6/150	1/8	10 1/2/267	7.20/204	6
2503V	46660						
2504	46656	no. 4	8/200	3/8	13/330	11.52/327	6
2504V	46657						

Conforms to U.S. Fed. Spec. GGG-S-121d, Type VI, Class 1, Style 1, with cushion grip.

## Phillips stubby






Cat. No.	N/S No.	Point size				oz/g	Shelf Pack
2522	46658	no. 2	1 1/2/32	1/8	3 1/8/79	2.00/57	6
2522V	46659						

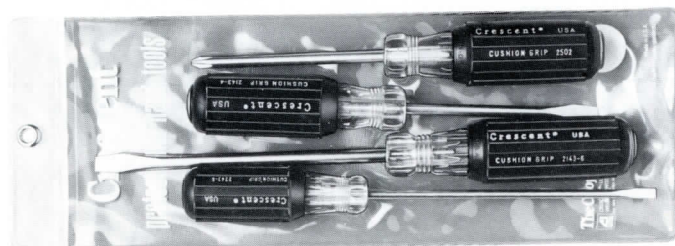


## Pozidriv Screwdrivers



Cat. No.	N/S No.	 " /mm	 " /mm	 " /mm	oz/g	Shelf Pack
2701	46864	3/76	$\frac{3}{8}$ /5	6 $\frac{3}{4}$ /162	4.27/121	6
2702	46865	4 $\frac{1}{2}$ /114	$\frac{1}{2}$ /6	8 $\frac{3}{8}$ /135	6.16/175	6
2703	46866	6 $\frac{3}{8}$ /162	$\frac{5}{8}$ /8	11 $\frac{3}{8}$ /289	8.27/234	6
2722	46867	1 $\frac{1}{2}$ /38	$\frac{1}{4}$ /6	3 $\frac{3}{8}$ /84	3.29/93	6

## Cushion grip screwdriver pack



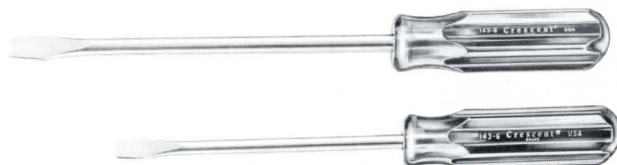
Four popular-sized cushion grip screwdrivers suitable for any job requirement. Packed in an attractive plastic pouch.




Cat. No.	N/S No.	Contents	oz/g	Shelf Pack
270P	46409	2243-6—Electrician's round	19.81/563	3
		2143-4—Mechanic's round		
		2143-6—Mechanic's square		
		2502—Genuine Phillips		

## Rhino screwdrivers

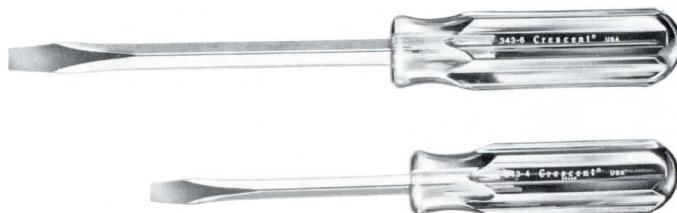
Extruded oversized plastic handle makes for extra torque with maximum comfort. Blades made of tough, long lasting alloy steel. Precision ground.




### Mechanic's round



Cat. No.	N/S No.	 " /mm	 " /mm	 " /mm	oz/g	Shelf Pack
143-3	46345	3/76	$\frac{3}{32}$ /5.5	6 $\frac{3}{8}$ /162	2.00/57	6
143-3V	46346					
143-4	46347	4/100	$\frac{1}{4}$ /6	7 $\frac{3}{4}$ /197	3.47/98	6
143-4V	46348					
143-6	46349	6/150	$\frac{5}{8}$ /8	10 $\frac{1}{4}$ /260	5.87/166	6
143-6V	46350					
143-8	46351	8/200	$\frac{3}{8}$ /10	13/330	8.53/242	6
143-8V	46352					
143-10	46353	10/250	$\frac{3}{8}$ /10	15 $\frac{1}{2}$ /395	9.87/280	6
143-10V	46354					
143-12	46355	12/300	$\frac{3}{8}$ /10	17 $\frac{1}{2}$ /444	10.67/302	6




### Mechanic's square



Cat. No.	N/S No.	 " /mm	 " /mm	 " /mm	oz/g	Shelf Pack
343-4	46429	4/100	$\frac{1}{4}$ /6	7 $\frac{3}{4}$ /107	3.47/98	6
343-4V	46430					
343-6	46431	6/150	$\frac{5}{8}$ /8	10 $\frac{1}{4}$ /260	6.40/181	6
343-6V	46432					
343-8	46433	8/200	$\frac{3}{8}$ /10	13/330	9.60/272	6
343-8V	46434					
343-12	46435	12/300	$\frac{3}{8}$ /10	17 $\frac{1}{2}$ /438	13.33/378	6
343-12V	46436					




Screwholding mechanic's point



Cat. No.	N/S No.	 /mm	 /mm	 /mm	oz/g	Shelf Pack
247-3	46391	3/76	1/8/3	5 3/4/146	0.83/24	6
247-3V	46392					
247-4	46393	4/100	1/8/3	6 3/4/174	1.17/33	6
247-4V	46394					
247-6	46395	6/150	1/8/3	9 3/8/238	1.87/53	6
247-6V	46396					
247-8	46397	8/200	1/8/3	11 3/8/289	2.13/60	6
247-8V	46398					
248-4	46399	4/100	3/16/5	7 1/2/191	2.67/76	6
248-4V	46400					
248-7	46401	7/175	3/16/5	10 1/2/267	3.07/87	6
248-7V	46402					
249-8	46403	8/200	9/32/7	12 1/4/311	6.72/191	6
249-8V	46404					




Screwholding Phillips point



Cat. No.	N/S No.	Point size	 /mm	 /mm	 /mm	oz/g	Shelf Pack
261-3	46405	no. 1	3/76	3/16/5	6 3/8/162	1.87/53	6
261-3V	46406						
262-4	46407	no. 2	4/10	1/4/6	7 3/4/197	3.73/106	6
262-4V	46408						




Electrician's round



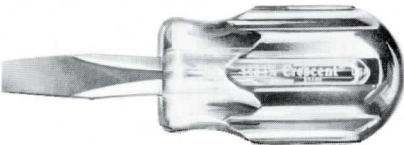
Cat. No.	N/S No.	 /mm	 /mm	 /mm	oz/g	Shelf Pack
243-3	46375	3/76	3/16/5	6 3/8/162	1.76/50	6
243-3V	46376					
243-4	46377	4/100	3/16/5	7 1/2/190	2.13/60	6
243-4V	46378					
243-6	46379	6/150	3/16/5	9 1/2/241	2.67/76	6
243-6V	46380					
243-8	46381	8/200	3/16/5	11 1/2/292	3.20/91	6
243-8V	46382					
243-10	46383	10/250	3/16/5	13 1/2/343	3.47/98	6




Electronic thin blade



Cat. No.	N/S No.	 /mm	 /mm	 /mm	oz/g	Shelf Pack
244-4	46385	4/100	9/64/4	6 3/4/171	1.07/30	6
244-4V	46386					
244-6	46387	6/150	9/64/4	8 3/4/222	1.20/34	6
244-6V	46388					
244-8	46389	8/200	9/64/4	10 3/4/273	1.60/45	6
244-8V	46490					

Stubby






Cat. No.	N/S No.	 /mm	 /mm	 /mm	oz/g	Shelf Pack
443-1 1/2	46476	1 1/2/32	1/4/6	3 1/8/78	2.00/57	6
443-1 1/4V	46477					

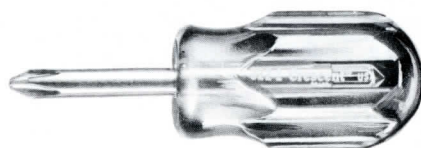





## Genuine Phillips



Cat. No.	N/S No.	Point size	 /mm	 /mm	 /mm	oz/g	Shelf Pack
300 300V	46410 46411	no. 0	3/76	$\frac{1}{8}/3$	$5\frac{3}{4}/146$	0.96/27	6
301 301V	46413 46414	no. 1	3/76	$\frac{3}{8}/5$	$6\frac{3}{8}/162$	2.13/60	6
302 302V	46415 46416	no. 2	4/100	$\frac{1}{4}/6$	$7\frac{1}{4}/187$	5.33/151	6
303 303V	46417 46418	no. 3	6/150	$\frac{5}{8}/8$	$10\frac{1}{4}/260$	5.87/166	6
304	46419	no. 4	8/200	$\frac{3}{4}/10$	$13/330$	8.53/242	6
331 331V	46425 46426	no. 1	8/200	$\frac{3}{8}/5$	$11\frac{1}{2}/292$	2.67/76	6
332 332V	46427 46428	no. 2	6/150	$\frac{1}{4}/6$	$9\frac{3}{4}/247$	4.00/113	6




## Phillips stubby



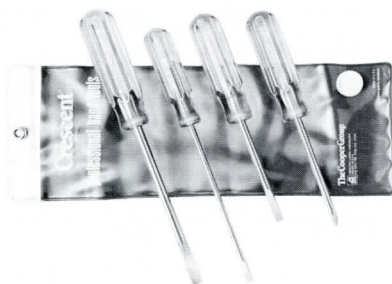
Cat. No.	N/S No.	Point size	 /mm	 /mm	 /mm	oz/g	Shelf Pack
311 311V	46421 46422	no. 1	1/25	$\frac{3}{8}/5$	$2\frac{3}{8}/73$	0.91/26	6
322 322V	46423 46424	no. 2	$1\frac{1}{4}/32$	$\frac{1}{4}/6$	$3\frac{1}{8}/79$	1.92/54	6

## Pocket with clip screwdriver



Cat. No.	N/S No.	 /mm	 /mm	 /mm	oz/g	Shelf Pack
543-2 543-2V	46484 46485	2/50	$\frac{1}{8}/3$	$4\frac{1}{8}/104$	0.60/17	12

## Rhino screwdriver pack



Four popular-sized screwdrivers in a convenient reusable plastic pouch.

Cat. No.	N/S No.	Contents	oz/g	Shelf Pack
143P	46537	143-4—Mechanic's round	19.34/5.48	3
		143-6—Mechanic's square		
		243-6—Electrician's round		
		304—Genuine Phillips		

## Rhino screwdriver set



Six popular-sized screwdrivers in a convenient reusable plastic pouch.

Cat. No.	N/S No.	Contents	oz/g	Shelf Pack
RR6	46773	243-3—3"/76mm Electrician's round	27.50/779	1
		243-6—6"/150mm Electrician's round		
		343-4—4"/100mm Mechanic's square		
		343-8—8"/200mm Mechanic's square		
		301—No. 1 Genuine Phillips		
		303—No. 3 Genuine Phillips		

# Bridgeport® screwdrivers

Contoured handles and precision ground blades ensure firm grip with maximum comfort. Heavy duty steel alloy blades, fully polished with a plated finish for strength and durability.

## Mechanic's round



Cat. No.	N/S No.	" /mm	" /mm	" /mm	oz/g	Shelf Pack
3143-3	46871	3/76	1/6	7/178	2.00/57	6
3143-4	46872	4/100	1/6	8/200	3.47/98	6
3143-6	46873	6/150	5/8	10 1/4/260	5.97/169	6
3143-8	46874	8/200	3/8	11 1/4/298	8.64/245	6

## Mechanic's square



Cat. No.	N/S No.	" /mm	" /mm	" /mm	oz/g	Shelf Pack
3343-4	46882	4/100	1/6	8/200	3.47/98	6
3343-6	46883	6/150	5/8	10 1/4/260	6.40/182	6
3343-8	46884	8/200	3/8	12 1/4/310	9.63/273	6

## Electrician's round



Cat. No.	N/S No.	" /mm	" /mm	" /mm	oz/g	Shelf Pack
3243-3	46875	3/76	3/8	7/178	1.76/50	6
3243-6	46876	6/150	3/8	10/250	2.67/76	6

## Genuine Phillips



Cat. No.	N/S No.	" /mm	" /mm	" /mm	oz/g	Shelf Pack
3301	46877	3/76	3/8	7/178	2.12/60	6
3302	46878	4/100	1/6	8/200	5.34/151	6
3303	46879	6/150	5/8	10 1/4/260	5.97/169	6

## Stubby



Cat. No.	N/S No.	" /mm	" /mm	" /mm	oz/g	Shelf Pack
3343-1 1/2	46881	1 1/2/32	1/6	3 1/4/82	2.00/57	6

## Phillips Stubby



Cat. No.	N/S No.	" /mm	" /mm	" /mm	oz/g	Shelf Pack
3322	46880	1 3/8/35	1/6	3 3/8/85	1.87/53	6

## Bridgeport® screwdriver packs

Popular-sized screwdrivers in a convenient reusable plastic pouch.

Cat. No.	N/S No.	Contents	oz/g	Shelf Pack
333P	46893	3301, 3302, 3303	14.43/380	3
335P	46894	3301, 3302, 3343-1 1/2, 3243-6, 3343-4	15.60/467	3



## Scratch awls

### Cushion grip



No.	N/S No.	Length " /mm	Width " /mm	Weight oz/g	Shelf Pack
2245	46639	3 $\frac{3}{8}$ "/98	7 $\frac{1}{2}$ "/191	3.47/98	6
2245V	46640				

## Wood handle



Cat. No.	N/S No.	Length " /mm	Width " /mm	Weight oz/g	Shelf Pack
73	46301	3 $\frac{3}{8}$ "/98	6 $\frac{5}{8}$ "/168	3.33/94	6
73V	46302				

## Crescent nutdrivers



Crescent nutdrivers feature steel shafts and precision-machined, case hardened sockets with bright plated polished finish. Plastic handles are color-coded for easy size identification.

Cat. No.	N/S No.	Color code	Hex. opening	Shaft length	Handle size	Shelf Pack
700- $\frac{3}{16}$	46742	Black	$\frac{3}{16}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{16}$ " x 3 $\frac{1}{8}$ "	6
700- $\frac{3}{16}$ V	46743					
700- $\frac{1}{4}$	46746	Red	$\frac{1}{4}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{8}$ " x 4 $\frac{1}{8}$ "	6
700- $\frac{1}{4}$ V	46747					
700- $\frac{5}{16}$	46750	Amber	$\frac{5}{16}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{8}$ " x 4 $\frac{1}{8}$ "	6
700- $\frac{5}{16}$ V	46751					
700- $\frac{11}{32}$	46752	Green	$\frac{11}{32}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{8}$ " x 4 $\frac{1}{8}$ "	6
700- $\frac{11}{32}$ V	46753					
700- $\frac{3}{8}$	46754	Blue	$\frac{3}{8}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{8}$ " x 4 $\frac{1}{8}$ "	6
700- $\frac{3}{8}$ V	46755					
700- $\frac{7}{8}$	46756	Brown	$\frac{7}{8}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{8}$ " x 4 $\frac{1}{8}$ "	6
700- $\frac{7}{8}$ V	46757					
700- $\frac{1}{2}$	46758	Red	$\frac{1}{2}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{8}$ " x 4 $\frac{1}{8}$ "	6
700- $\frac{1}{2}$ V	46759					
700- $\frac{9}{16}$	46760	Orange	$\frac{9}{16}$ "	3 $\frac{3}{8}$ "	1 $\frac{1}{8}$ " x 4 $\frac{1}{8}$ "	6

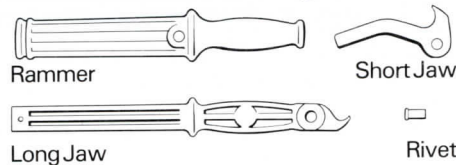
Note: To order carded nutdrivers, add suffix "V". (Example 700- $\frac{7}{8}$ V)

## Nutdriver pouch set

Contains 7 drivers, all with full hollow shaft.

Cat. No.	N/S No.	Contents	Shelf Pack
700P	46762	700 $\frac{3}{16}$ " 700 $\frac{1}{4}$ " 700 $\frac{5}{16}$ " 700 $\frac{11}{32}$ " 700 $\frac{3}{8}$ " 700 $\frac{7}{8}$ " 700 $\frac{1}{2}$ "	1

## Nail puller



Box-joint forged tempered jaws — black enamelled finish.

Cat. No.	N/S No.	Length " /mm	Full extension " /mm	Weight lb/g	Shelf Pack
56	46284	19/483	24/610	3.86/1899	3

Conforms to U.S. Fed. Spec. GGG-P-79lb, Type 1, Class-1.

Order nail puller parts by specifying both catalogue number and part name.

No.  
56LJ (46285) long jaw  
56SJ (46288) short jaw  
56R/P (46286) rammer and pin  
56R (46287) rivet

## Three-piece kit



Contains adjustable wrench, slip joint pliers and Rhino screwdriver. Vinyl case with snap fastener.

Cat. No.	N/S No.	Contents	Shelf Pack
TK31	46268	L26—6" thin nose slip joint pliers AC18—8" chromium plated adjustable wrench 143-4—4" Rhino screwdriver	1
TK31V	46870	same contents as TK31 except pliers, wrench and screwdriver are skin packed on hang-up card	1

## Pliers kit



Four pliers all drop forged from a fine alloy steel and fitted with cushion grips.

Cat. No.	N/S No.	Contents	Shelf Pack
PL-4	46774	50-7C—7"/178mm lineman's pliers 942-5C—5"/125mm diagonal cutting G26C—6"/150mm slip joint 1033-6C—6"/150mm needle nose pliers	1

## Multi-Purpose Tool Kit



This versatile kit contains 11 quality tools, perfect for all types of routine repair and simple do-it-yourself projects. Everything comes neatly packaged in an attractive, easy-to-store case.

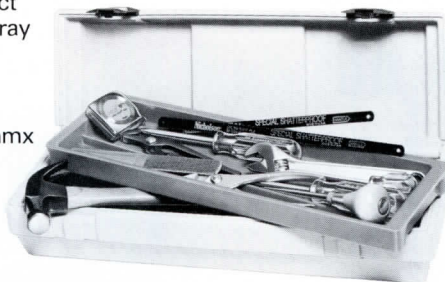
Cat. No.	N/S No.	Contents	Shelf Pack
CTK-11	46800	143-4— $\frac{1}{4}$ " / 6mm x 4" / 102mm Round Blade Screwdriver	3
		244-4— $\frac{3}{8}$ " / 3.17mm x 4" / 102mm Round Blade Screwdriver	
		301—No. 1 Phillips x 3" / 76mm Screwdriver	
		8— $\frac{1}{4}$ " / 6mm Hex Nutdriver	
		P12S—No. 0 Phillips x 2" / 51mm Screwdriver	
		654-6—6" / 152mm Long Nose Pliers with Side Cutter	
		AC16C—6" / 152mm Adjustable Wrench	
		443-1 $\frac{1}{4}$ — $\frac{1}{4}$ " / 6mm x 1 $\frac{1}{4}$ " / 32mm Stubby Square Blade Screwdriver	
		100-X—Wire Stripper & Cut Adj. Screw Top	
		W9210ME— $\frac{1}{2}$ " / 13mm x 10' / 3m Metric/English Tape Rule	
		G26—6" / 150mm Combination Pliers. Chrome Plated	



## TC17 Tool chest

17 piece set: High impact molded toolchest with tray and 15 quality tools for home and professional use.

Dimensions: 19"/432mmx  
6½"/165mmx  
4½"/114mm  
Weight: 7 lb/3.17 Kg



Cat. No.	N/S No.	Qty.	Contents	lb/kg	Shelf Pack
TC17	46863	1	8"/200mm adjustable wrench	7/3.17	1
		1	7"/178mm tongue and groove pliers		
		1	6"/150mm slip joint pliers		
		3	screwdrivers		
		1	wood handle awl		
		1	hacksaw		
		4	blades (10"/250mm and 12"/300mm)		
		1	four-in-hand file		
		1	6"/2m tape		
		1	10 oz. ripping hammer		

## Crescent Modules

For use with the Cooper Tool Wall. For additional information regarding the Cooper module system see the last 2 pages of this catalog.

### TW-1 (46802) Chrome adjustable wrench module



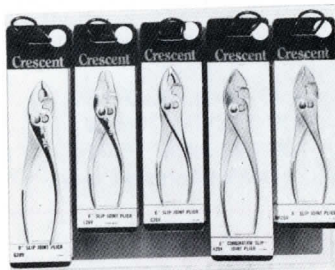
Size: 16"/400mm x 16"/400mm (B)  
Shipping weight: 11 lb/5 Kg  
Contains: Two (2) Each AC16V, AC18V, AC110V, AC112V.  
TW1A (46803) refill assortment only.

### TW-2 (46804) Black adjustable wrench module



Size: 16"/400mm x 16"/400mm (B)  
Shipping weight: 10 lb/4½ Kg  
Contains: Two (2) Each AT16V, AT18V, AT110V, AT112V.  
TW-2A (46805) refill assortment only.

### TW-3 (46806) Slip joint pliers module



Size: 16"/400mm x 13"/330mm (C)  
Shipping weight: 10 lb/4½ Kg.  
Contains: Three (3) Each G26V, G28V, L26V, H26V, H28V.  
TW-3A (46807) refill assortment only.

### TW-4 (46808) Tongue and Groove pliers module



Size: 16"/400mm x 16"/400mm (B)  
Shipping weight: 12¼ lb/5½ Kg  
Contains: Two (2) Each R27CV, R212CV, Four (4) R210CV.  
TW-4A (46809) refill assortment only.

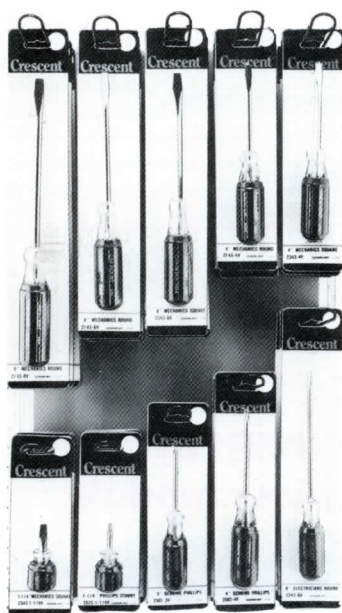
### TW-5 (46810) Solid joint pliers module



Size: 16"/400mm x 29"/740mm (A)  
Shipping weight: 14¼ lb/6½ Kg  
Contains: Two (2) Each 50-8CV, 72-7CV, 542-7CV, 654-6CV, 654-7CV, 777-6CV, 942-5CV, 942-6CV, 1033-6CV.  
TW-5A (46811) refill assortment only.

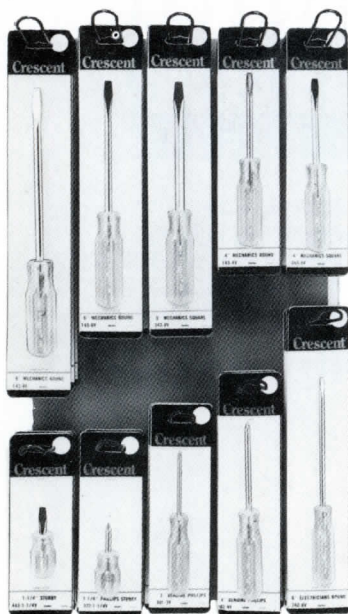


## TW-6 (46812) Cushion grip screwdriver module



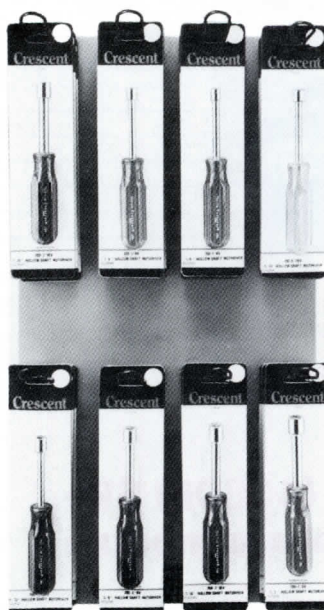
Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 16½ lb/7½ Kg  
Contains: Three (3) Each 2143-4V,  
2143-6V, 2143-8V, 2343-4V,  
2343-6V, 2243-6V, 2501-3V,  
2502-4V, 2343-1½V, 2522-1½V.  
TW-6A (46813) refill assortment only.

## TW-7 (46814) Rhino screwdriver module



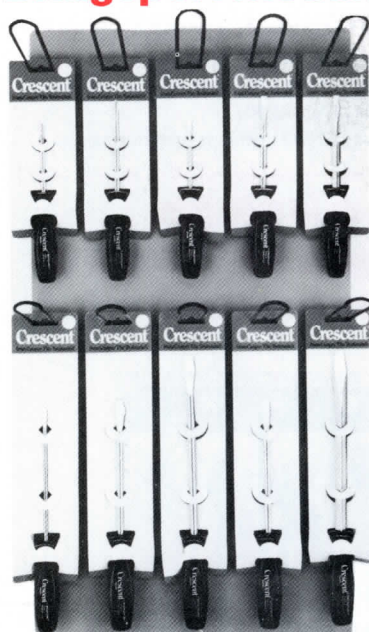
Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 14¾ lb/6.70 Kg  
Contains: Three (3) Each 143-4V,  
143-6V, 143-8V, 343-4V, 343-6V,  
243-6V, 301-V, 302-V, 443-1½V,  
322-V.  
TW-7A (46815) refill assortment only.

## TW-8 (46820) Nutdriver module



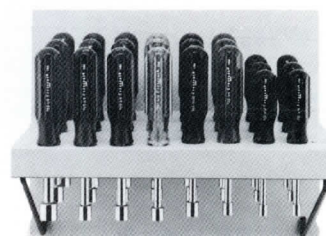
Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 11¾ lb/5¼ Kg  
Contains: Three (3) Each 700-3/16V,  
700-5/16V, 700-11/32V, 700-¾V,  
700-7/16V, 700-½V, Six (6) 700-¼V.  
TW-8A (46821) refill assortment only.

## TW-58 (46890) Bridgeport module



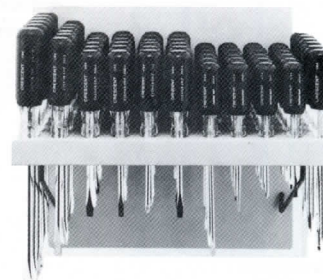
Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 14¾ lb/6.70 Kg  
Contains: Three (3) Each 3143-4,  
3143-6, 3143-8, 3243-3, 3243-6,  
3301, 3302, 3343-4, 3343-6, 3343-8.  
TW-58A (46891) refill assortment only.

## TW-9 (46822) Hollow shaft nutdriver module



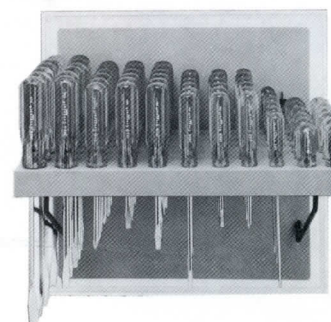
Size: 16" /400mm x 13" /330mm (C)  
Shipping weight: 9½ lb/4¼ Kg  
Contains: Three (3) Each 700-¾, 700-¾,  
700-¾, 700-¾, 700-¾, 700-¾, Six (6)  
700-¾.  
TW-9A (46823) refill assortment only.

## TW-55 (46816) Open stock cushion grip screwdriver module



Size: 16" /400mm x 16" /400mm (B)  
Shipping weight: 15¼ lb/6.90 Kg  
Contains: Three (3) Each 2143-4, 2143-6,  
2143-8, 2343-4, 2245, 2243-3,  
2243-6, 2501, 2502, 2142-4, 2142-6.  
TW-55A (46817) refill assortment only.

## TW-56 (46818) Open stock Rhino screwdriver module



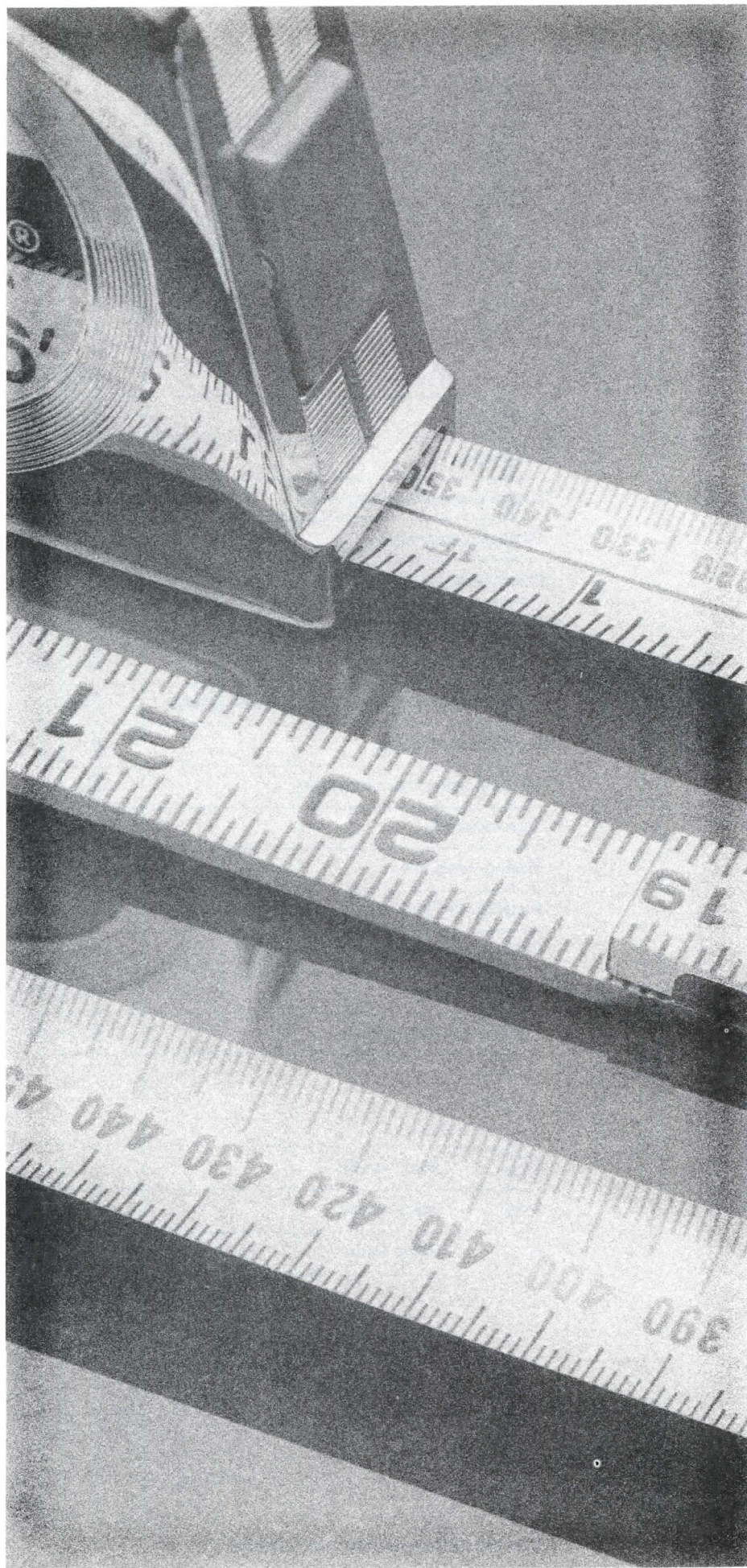
Size: 16" /400mm x 16" /400mm (B)  
Shipping weight: 14½ lb/6½ Kg  
Contains: Three (3) Each 143-3, 143-4,  
143-6, 143-8, 343-4, 343-8, 243-3,  
243-6, 244-6, 301, 302, 443-1½, 322.  
TW-56A (46819) refill assortment only.



Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
6N	C17	247-3	C20	700-1V	C23	1950-8CV	C15	AC14J	C3	AT118	C2
7N	C17	247-3V	C20	700-1 $\frac{1}{2}$ V	C23	2050-9	C15	AC14K	C3	AT118J	C3
8	C24	247-4	C20	700-1 $\frac{1}{2}$ V	C23	2050-9C	C15	AC14P	C4	AT118K	C3
8N	C17	247-4V	C20	700-1 $\frac{1}{2}$ V	C23	2050-9T	C15	AC14V	C1	AT118P	C4
9N	C17	247-6	C20	700-1 $\frac{1}{2}$ V	C23	2050-SCV	C15	AC14CV	C2	CTK-11	C24
20-4 $\frac{1}{2}$ SCP	C13	247-6V	C20	700-1 $\frac{1}{2}$ V	C23	2142-4	C18	AC16	C1	625	C6
21-4 $\frac{1}{2}$ SC	C13	247-8	C20	700-1V	C23	2142-4V	C18	AC16C	C1	625V	C6
21-6	C13	247-8V	C20	700-1 $\frac{1}{2}$ V	C23	2142-6	C18	AC16J	C3	626	C6
21-6C	C13	248-4	C20	700-1 $\frac{1}{2}$ V	C23	2142-6V	C18	AC16K	C3	626V	C6
21-6CV	C13	248-4V	C20	700-1 $\frac{1}{2}$ V	C23	2143-3	C17	AC16P	C4	628	C6
21-6SC	C13	248-7	C20	700-1V	C23	2143-3V	C17	AC16V	C1	628V	C6
22-4SC	C11	248-7V	C20	700-1 $\frac{1}{2}$ V	C23	2143-4	C17	AC16CV	C2	6210	C6
22-5	C11	249-8	C20	700-1 $\frac{1}{2}$ V	C23	2143-4V	C17	AC18	C1	6210V	C6
22-5C	C11	249-8V	C20	700P	C23	2143-6	C17	AC18C	C2	H26	C6
22-5V	C11	261-3	C20	742-7	C10	2143-6V	C17	AC18I	C1	H26V	C6
22-5CV	C11	261-3V	C20	742-7C	C10	2143-8	C17	AC18J	C3	H28	C6
22-5SC	C11	262-4	C20	775-4 $\frac{1}{2}$ SC	C12	2143-8V	C17	AC18K	C3	H28V	C6
23-7	C13	262-4V	C20	775-5SC	C12	2143-10	C17	AC18P	C4	J26	C6
23-7C	C13	270P	C19	777-6	C12	2143-10V	C17	AC18V	C1	J26V	C6
23-7SC	C13	300	C21	776-6SC	C13	2143-12	C17	AC18CV	C2	L25	C6
25-4 $\frac{1}{2}$ SC	C10	300V	C21	777-6V	C12	2143-12V	C17	AC110	C1	L25V	C6
25-4 $\frac{1}{2}$ SC	C10	301	C21	777-6C	C12	2150-8	C15	AC110C	C2	L26	C6
25-4 $\frac{1}{2}$ SCP	C10	301V	C21	777-6CV	C12	2150-8C	C15	AC110I	C1	L26V	C6
27-4 $\frac{1}{2}$ SC	C13	302	C21	777-6SC	C12	2150-8T	C15	AC110J	C3	L28	C6
50-6	C14	302V	C21	777-7	C12	2243-3	C18	AC110K	C3	L28V	C6
50-6C	C14	303	C21	777-7C	C12	2243-3V	C18	AC110P	C4	LS26	C7
50-6V	C14	303V	C21	777-7V	C12	2243-4	C18	AC110V	C1	LS26V	C7
50-6CV	C14	304	C21	777-7CV	C12	2243-4V	C18	AC110CV	C2	P12	C24
50-6T	C14	304V	C21	777-7SC	C12	2243-6	C18	AC112	C1	PBN5	C5, C7
50-7	C14	311	C21	888-6	C12	2243-6V	C18	AC112C	C2	PBN6	C5, C7
50-7C	C14	311V	C21	888-6C	C12	2243-8	C18	AC112I	C1	PBN10	C5, C7
50-7V	C14	322	C21	888-6SC	C12	2243-8V	C18	AC112J	C3	PBN27	C5, C7
50-7CV	C14	322V	C21	923-7	C7	2243-10	C18	AC112K	C3	PBN210	C5, C7
50-7T	C14	331	C21	940-6	C8	2243-10V	C18	AC112P	C4	PBN212	C5, C7
50-8	C14	331V	C21	940-6C	C8	2245	C23	AC112V	C1	PL-4	C24
50-8C	C14	332	C21	940-6SC	C8	2245V	C23	AC112CV	C2	R27	C5
50-8V	C14	332V	C21	941-4SC	C8	2343-1 $\frac{1}{2}$	C18	AC115	C1	R27C	C5
50-8CV	C14	333P	C22	941-4SCE	C8	2343-1 $\frac{1}{2}$ V	C18	AC115J	C3	R27V	C5
50-8T	C14	335P	C22	942-4	C9	2343-4	C17	AC115K	C3	R27CV	C5
56	C23	343-4	C19	942-4C	C9	2343-4V	C17	AC115P	C4	R210	C5
56R	C23	343-4V	C19	942-4CV	C9	2343-6	C17	AC118	C1	R210C	C5
56U	C23	343-6	C19	942-4SC	C9	2343-6V	C17	AC118J	C3	R210V	C5
56RP	C23	343-6V	C19	942-4 $\frac{1}{2}$ SC	C9	2343-8	C17	AC118K	C3	R210CV	C5
56SJ	C23	343-8	C19	942-5	C9	2343-8V	C17	AC118P	C4	R212	C5
72-6	C16	343-8V	C19	942-5C	C9	2343-12	C17	AC124	C1	R212C	C5
72-6C	C16	343-12	C19	942-5V	C9	2401-3	C18	AC124J	C3	R212V	C5
72-6V	C16	343-12V	C19	942-5CV	C9	2401-4	C18	AC124K	C3	R212CV	C5
72-6CV	C16	443-1 $\frac{1}{2}$	C20	942-5SC	C9	2401-6	C18	AC124P	C4	R214C	C5
72-7	C16	443-1 $\frac{1}{2}$ V	C20	945-5SCV	C9	2401-8	C18	AC Kit	C3	R214CV	C5
72-7C	C16	542-7	C10	942-6	C9	2501	C18	ACV	C3	R220	C5
72-7V	C16	542-7C	C10	942-6C	C9	2501V	C18	AT14	C2	R220C	C5
72-7CV	C16	542-7I	C10	942-6I	C9	2502	C18	AT14C	C2	R220CV	C5
72-8	C16	542-7V	C10	942-6V	C9	2502V	C18	AT14C	C2	R410	C5
72-8C	C16	542-7CV	C10	942-6CV	C9	2503	C18	AT14J	C3	R410C	C5
72-8V	C16	542-8	C10	942-4SC	C9	2503V	C18	AT14K	C3	R410V	C5
72-8CV	C16	542-8C	C10	943-5SC	C9	2504	C18	AT14P	C4	R410CV	C5
72-9	C16	542-8I	C10	946-4 $\frac{1}{2}$ SCE	C9	2904V	C18	AT14V	C1	R414C	C5
72-9C	C16	543-2	C21	951-4SCE	C9	2522	C18	T14C	C2	RP-AC	C4
72-9V	C16	543-2V	C21	1000-8	C16	2522	C18	AT16	C2	RP-AT	C4
72-9CV	C16	622-5	C11	1000-10	C16	2522V	C18	AT16C	C2	RR-6	C21
73	C23	622-5C	C11	1000-12	C16	2701	C19	AT16J	C3	TC-17	C25
73V	C23	622-5V	C11	1033-5 $\frac{1}{2}$	C11	2702	C19	AT16K	C3	TK31	C24
100-X	C24	622-5CV	C11	1033-5 $\frac{1}{2}$ SC	C11	2703	C19	AT16P	C4	TK31V	C24
143P	C21	622-5SC	C11	1033-6	C11	2722	C19	AT16V	C1	TW-1	C25
143-3	C19	650-7	C14	1033-6C	C11	3143-3	C22	T16CV	C2	TW-1A	C25
143-3V	C19	650-7C	C14	1033-6V	C11	3143-4	C22	AT18	C2	TW-2	C25
143-4	C19	650-7V	C14	1033-6CV	C11	3143-6	C22	AT18C	C2	TW-2A	C25
143-4V	C19	650-7CV	C14	1033-6SC	C11	3143-8	C22	AT18I	C2	TW-3	C26
143-6	C19	650-7SC	C14	1033-7	C11	3243-3	C22	AT18J	C3	TW-3A	C26
143-6V	C19	654-5 $\frac{1}{2}$	C10	1033-7C	C11	3243-6	C22	AT18K	C3	TW-4	C25
143-8	C19	654-5 $\frac{1}{2}$ V	C10	1033-7CV	C11	3301	C22	AT18P	C4	TW-4A	C25
143-8V	C19	654-6	C10	1033-7SC	C11	3302	C22	AT18V	C1	TW-5	C26
143-10	C19	654-6C	C10	1033-7V	C11	3303	C22	AT18CV	C2	TW-5A	C26
143-10V	C19	654-6I	C10	1936-10	C16	3322	C22	AT110	C2	TW-6	C26
143-12	C19	654-6V	C10	1936-10C	C11	3343-1 $\frac{1}{2}$	C22	AT110C	C2	TW-6A	C26
143-12V	C19	654-6CV	C10	1936-10V	C16	3343-4	C22	AT110I	C2	TW-7	C26
200SCED	C8	654-6SC	C10	1936-10CV	C16	3343-6	C22	AT110J	C3	TW-7A	C26
243-3	C20	654-7	C10	1950-6	C15	3343-8	C22	AT110K	C3, C4	TW-8	C26
243-3V	C20	654-7C	C10	1950-6C	C15	3800-6	C16	AT110P	C4	TW-8A	C26
243-4	C20	654-7I	C10	1950-6CV	C15	3800-6C	C16	AT110V	C2	TW-9	C26
243-4V	C20	654-7V	C10	1950-6T	C15	3800-6T	C16	AT110CV	C2	TW-9A	C26
243-6	C20	654-7CV	C10	1950-6V	C15	3800-7	C16	AT112	C2	TW-55	C29
243-6V	C20	654-7SC	C10	1950-7	C15	3800-7C	C16	AT112C	C2	TW-55A	C29
243-8	C20	665-5 $\frac{1}{2}$ SC	C11	1950-7C	C15	3800-7T	C16	AT112J	C3	TW-56	C29
243-8V	C20	666-4 $\frac{1}{2}$ SCP	C11	1950-7CV	C15	3800-8	C16	AT112K	C3, C4	TW-56A	C29
243-10	C20	666-6	C12	1950-7T	C15	3800-8C	C16	AT112P	C4	TW-58	C28
244-4	C20	666-6C	C12	1950-7V	C15	3800-8T	C16	AT112V	C2	TW-58A	C28
244-4V	C20	666-8CV	C12	1950-8	C15	AC	C3	AT112CV	C2		
244-6	C20	666-6SC	C12	1950-8C	C15	AC1	C3	AT115	C2		
244-6V	C20	700-1 $\frac{1}{2}$	C23	1950-8I	C15	AC1V	C3	AT115J	C3		
244-8	C20	700-1 $\frac{1}{2}$ V	C23	1950-8T	C15	AC14	C1	AT115K	C3		
244-8V	C20	700-1 $\frac{1}{2}$	C23	1950-8V	C15	AC14C	C2	AT115P	C4		







<sup>®</sup>  
**Lufkin**

**CooperTools**



# Lufkin®




For over a century the name of Lufkin® has been associated with quality measuring tools. Lufkin short, long, pocket and special purpose tapes are joined by a host of other products matched to the needs of the architect, surveyor, home craftsman, carpenter in fact, everyone who measures. Lufkin was appointed official supplier of measuring tapes to the 1976 and 1980 Olympic Games.

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## Key to symbols

	Blade length
	Blade width
	Blade style

### Note:

N/S No. is an abbreviation for NIDA/SIDA Number.

## Short tapes

Blades are finished with an abrasive resistant coating for durability and long life. Two color easy-to-read markings. Self-adjusting end hooks. Metric, Metric/English and English. Refills available.

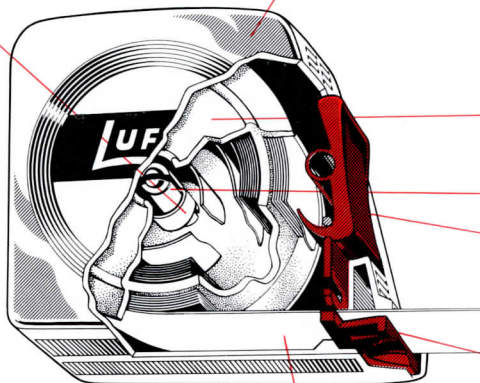
## Ultralok™ specifications

### Spring

- High quality, tempered spring steel anchored to center post.
- Stress winding technique gives natural action blade return.

### Case

- Molded from the same high-impact material found in telephones and racing drivers' helmets.
- Highly polished, electroplated chromium finish.
- Reduces weight by as much as 40% compared with metal cases.
- Sure grip serrated edges prevent slipping.



### End hook

- Plated rust resistant finish.
- Self-adjusting for accurate inside or outside measurement.

### Belt clip

- Removable belt clip of electro-plated spring steel

### Refills

- Always available.
- Easily changed by customer or dealer.

### Measuring blade

- High quality tempered spring steel.
- Baked enamel finish.
- Red and black graduations.
- Transparent abrasive resistant coating. Available in yellow and chrome clad finish and in widths of 1/4"/6mm, 1/2"/13mm, 3/4"/19mm and 1"/25mm and up to 26'/8m long.
- Blade graduations in English, Metric/English or Metric.

## Short tapes

### Prefixes

- C— Chrome clad  
R— Replacement blade  
W or Y— Yellow clad

### Suffixes

- M— Metric graduations  
ME— Metric/English graduations, millimeter numbering  
CM— Metric/centimeter numbering  
CME— Metric/English graduations, centimeter numbering  
D— English graduated feet and decimal feet along one edge, feet and inches along other edge

### Nylon spool

- Smooth action by separating measuring blade from spring and case sides—acts as a double bearing.

### Axle

- Solid center post extending completely across case keeps nylon spool running smoothly.

### Lock

- Large button conveniently positioned at front of case.
- Holds measuring blade securely at any length.

### Shock absorber

- Cushions natural action measuring blade return, reducing end hook damage.

## Ultralok™

All yellow clad. Ultralok tapes have exclusive new Ultramatte™ non-glare blades. This special coating also enables user to write on blade and wipe off.



Cat. No.	N/S No.	"/mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
<b>Y28</b>	45048	1/2" x 8'	A1	6	1.4/.66	<b>RY28</b> (RY8) (RW8)	45017
<b>Y210</b>	45136	1/2" x 10'	A1	6	1.7/.78	<b>RY210</b> (RY10) (RW10)	45023
<b>Y212</b>	45139	1/2" x 12'	A1	6	1.7/.78	<b>RW12</b> (RY12) (RY212)	45038
<b>Y12</b> (Y312)	45032	3/4" x 12'	A2	6	2.2/.98	<b>RW312</b> (RY312)	45220
<b>Y16</b> (Y316)	45039	3/4" x 16'	A2	6	3.3/1.3	<b>RW316</b> (RY316)	45233
<b>Y25</b> (Y325)	45046	3/4" x 25'	A2	6	4.7/2.1	<b>RY325</b>	45325
<b>Y116</b> (Y416)	45662	1" x 16'	A2	6	4.1/1.9	<b>RY416</b> (R416)	45713
<b>Y125</b> (Y425)	45663	1" x 25'	A2	6	6.0/2.7	<b>RY425</b> (R425)	45704
<b>C212X</b>	45664	1/2" x 12'	A3	6	1.8/.82	<b>RC212X</b> (RC12X)	45036
<b>W312D</b> (12D)	45030	3/4" x 12'	A4	6	2.3/1.0	<b>RW312D</b>	45935
<b>W325D</b> (25D)	45727	3/4" x 25'	A4	6	—	—	—
<b>W33CMD</b> (W933MD)	45374	3/4" x 10'/3m	A5	6	2.2/1.0	—	45056
<b>Y23CM</b> (Y210M)	45137	1/2" x 3m	A29	6	1.7/.78	—	—
<b>Y23CME</b> (Y210ME)	45138	1/2" x 10'/3m	A28	6	1.7/.78	—	—
<b>Y35ME</b> (Y16ME)	45041	3/4"/19mm x 16'/5m	A12	6	3.2/1.4	<b>RY35ME</b> (RY316ME)	45234
<b>Y38ME</b> (Y26ME)	45717	3/4" x 26'/8m	A12	6	4.7/2.1	<b>RY38ME</b> (RY326ME)	45711


Please see pages 7—10 for blade styles.

Order by catalog number and/or replacement number shown in bold.

## Ultralok™ cont.



The following tapes are available for export.


Cat. No.	N/S No.	 " / mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
Y22CME	—	$\frac{1}{2}$ " / 13mm x 6' / 2m	A28	6	1.3 / .59	RY22CME	—
Y23CME	—	$\frac{1}{2}$ " / 13mm x 10' / 3m	A28	6	1.7 / .77	RY23CME	—
Y24CME	—	$\frac{1}{2}$ " / 13mm x 13' / 4m	A28	6	2.0 / .92	RY24CME	—
Y25CME	—	$\frac{1}{2}$ " / 13mm x 16' / 5m	A28	6	2.3 / 1.0	RY25CME	—
Y33CME	—	$\frac{3}{4}$ " / 19mm x 10' / 3m	A28	6	2.3 / 1.0	RY33CME	—
Y34CME	—	$\frac{3}{4}$ " / 19mm x 13' / 4m	A28	6	2.8 / 1.3	RY34CME	—
Y35CME	—	$\frac{3}{4}$ " / 19mm x 16' / 5m	A28	6	3.1 / 1.4	RY35CME	—
Y35ME	—	$\frac{3}{4}$ " / 19mm x 16' / 5m	A28	1	3.1 / 1.4	RY35ME	—
Y38CME	—	$\frac{3}{4}$ " / 19mm x 26' / 8m	A28	6	4.6 / 2.1	RY38CME	—
Y45CME	—	1" / 25mm x 16' / 5m	A29	6	4.5 / 2.1	RY45CME	—
Y48CME	—	1" / 25mm x 26' / 8m	A29	6	6.6 / 3.0	RY48CME	—
Y22CM	—	13mm x 2m	A29	6	1.3 / .59	RY22CM	—
Y23CM	—	13mm x 3m	A29	6	1.7 / .77	RY23CM	—
Y24CM	—	13mm x 4m	A29	6	1.7 / .77	RY24CM	—
Y25CM	—	13mm x 5m	A29	6	2.3 / 1.0	RY25CM	—
Y33CM	—	19mm x 3m	A29	6	2.3 / 1.0	RY33CM	—
Y34CM	—	19mm x 4m	A29	6	—	RY34CM	—
Y35CM	—	19mm x 5m	A29	6	3.1 / 1.4	RY35CM	—
Y38CM	—	19mm x 8m	A29	6	4.6 / 2.1	RY38CM	—

Please see pages 7—10 for blade styles.

## Lokmatic



Yellow clad. Push button controlled blade return and positive blade locking make this the only completely automatic tape rule. Removable belt clip. Available in widths of  $\frac{1}{2}$ " / 13mm and  $\frac{3}{4}$ " / 19mm and up to 16' / 5m in length. Bold graduations with black and red numbers make for accurate measuring. Y7210MEX is designed for industrial application where metric and decimal measurement is practical.

Cat. No.	N/S No.	 " / mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
<b>W7312</b> (Y7312)	45530	$\frac{3}{4}$ " x 12'	A2	6	2.3 / 1.0	<b>RW312</b> (RY312)	45220
<b>W7316</b> (Y7316)	45532	$\frac{3}{4}$ " x 16'	A2	6	3.0 / 1.3	<b>RW316</b> (RY316)	45233
<b>W728</b>	45867	$\frac{1}{2}$ " x 8'	A1	6	1.4 / .64	<b>RY28</b> (RY8) (RW8)	45017
<b>W7210</b>	45868	$\frac{1}{2}$ " x 10'	A1	6	1.6 / .76	<b>RY210</b> (RY10) (RW10)	45023
<b>Y7210MEX</b>	45526	$\frac{1}{2}$ " / 13mm x $\frac{3}{4}$ " / 19mm	A15	6	1.6 / .75	<b>RY10MEX</b> (RY10MEX)	45025
<b>W7212</b>	45869	$\frac{1}{2}$ " x 12'	A1	6	1.7 / .79	<b>RW12</b> (RY12) (RY212)	45038

Please see pages 7—10 for blade styles.

Order by catalog number and/or replacement number shown in bold.

## Mezurall



Yellow clad. Chrome plated cases with belt clip. Manual operation. Available in widths of  $\frac{1}{2}$ " / 13mm and  $\frac{3}{4}$ " / 19mm and up to 16' / 5m in length.

Cat. No.	N/S No.	 " / mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
<b>W926</b>	45871	$\frac{1}{2}$ " x 6'	A1	6	1.0 / .49	<b>RW6</b> (RY6)	45010
<b>W928</b>	45872	$\frac{1}{2}$ " x 8'	A1	6	1.2 / .56	<b>RY28</b> (RY8) (RW8)	45016
<b>W9210</b>	45873	$\frac{1}{2}$ " x 10'	A1	6	1.5 / .71	<b>RY210</b> (RY10) (RW10)	45020
<b>W9212</b>	45874	$\frac{1}{2}$ " x 12'	A1	6	1.6 / .75	<b>RW12</b> (RY12) (RY212)	45038
<b>W9310</b>	45877	$\frac{3}{4}$ " x 10'	A2	6	2.0 / .94	<b>RW310</b> (RY310)	45216
<b>W9312</b>	45878	$\frac{3}{4}$ " x 12'	A2	6	2.2 / 1.0	<b>RW312</b> (RY312)	45220
<b>W9316</b>	45870	$\frac{3}{4}$ " x 16'	A2	6	—	<b>RW316</b> (RY316)	45233
<b>W9210D</b>	45881	$\frac{1}{2}$ " x 10'	A4	6	1.5 / .71	<b>RW10D</b> (RY10D)	45021
<b>W9312D</b>	45879	$\frac{3}{4}$ " x 12'	A4	6	2.2 / 1.0	<b>RW312D</b> (RY312D)	45935
<b>W9210M</b>	45555	$\frac{1}{2}$ " x 3m	A9	6	1.5 / .68	—	—
<b>W926ME</b>	45875	$\frac{1}{2}$ " / 13mm x 6' / 2m	A11	6	1.1 / .50	<b>RW6ME</b> (RY6ME)	45011
<b>W9210ME</b>	45876	$\frac{1}{2}$ " / 13mm x 10' / 3m	A11	6	1.5 / .71	<b>RW10ME</b> (RY10ME) (RY23ME)	45024

Please see pages 7—10 for blade styles.


Order by catalog number and/or replacement number shown in bold.



## Mezurall – chrome clad



Chrome plated case. Manual operation. Choice of industrial uses because it is tough, accurate and has a hard chrome plated blade. Available in widths of  $\frac{1}{2}$ " / 13mm and  $\frac{3}{4}$ " / 19mm and up to 12' / 4m in length.

Cat. No.	N/S No.	 " / mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/g	Repl. Blade No.	N/S No.
C9212X	45557	$\frac{1}{2}$ " x 12'	A7	6	—	RC212X	45036
C926	45367	$\frac{1}{2}$ " x 6'	A8	6	.89/.40	RC6	45006
C928	45372	$\frac{1}{2}$ " x 8'	A8	6	1.0/.47	RC8	45014
C9210	45548	$\frac{1}{2}$ " x 10'	A8	6	1.3/.63	RC10	45019
C9212	45556	$\frac{1}{2}$ " x 12'	A8	6	1.4/.68	RC12	45035
C9312	45563	$\frac{3}{4}$ " x 12'	A2	6	2.1/.96	RC312	45218
C9210M	45549	$\frac{1}{2}$ " x 3m	A9	6	1.6/.74	—	—
C926ME	45368	$\frac{1}{2}$ " / 13mm x 6' / 2m	A11	6	.90/.41	—	—
C9210ME	45550	$\frac{1}{2}$ " / 13mm x 10' / 3m	A11	6	1.3/.61	—	—

The following tapes are available for export.


C2CME	—	$\frac{1}{2}$ " / 13mm x 6' / 2m	A28	6	1.6/.72	RC2CME	—
C3CME	—	$\frac{1}{2}$ " / 13mm x 10' / 3m	A28	6	1.8/.82	RC3CME	—
C2M	—	13mm x 2m	A29	6	1.6/.72	RC2M	—
C3M	—	13mm x 3m	A29	6	1.8/.82	RC3CM	—

Please see pages 7—10 for blade styles.

## Mezurlok (export only)

Yellow clad.  $\frac{1}{2}$ " / 13mm and  $\frac{3}{4}$ " / 19mm wide. Positive lock. Removable belt clip.



Cat. No.	N/S No.	 " / mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
<b>W928</b>	—	$\frac{1}{2}$ " x 8'	A1	6	1.3/.59	<b>RY8 (RW8)</b>	—
<b>W9210</b>	—	$\frac{1}{2}$ " x 10'	A1	6	1.4/.64	<b>RY10</b>	—
<b>W9212</b>	—	$\frac{1}{2}$ " x 12'	A1	6	2.1/.95	<b>RY12</b>	—
<b>W9312</b>	—	$\frac{3}{4}$ " x 12'	A1	6	2.1/.95	<b>RY312</b>	—
<b>W9210D</b>	—	$\frac{1}{2}$ " x 10'	A4	6	1.4/.64	<b>RW10D</b>	—
<b>Y922CME</b>	—	$\frac{1}{2}$ " / 13mm x 6' / 2m	A28	6	1.1/.50	<b>RY22CME</b>	—
<b>Y923CME</b>	—	$\frac{1}{2}$ " / 13mm x 10' / 3m	A28	6	1.4/.64	<b>RY23CME</b>	—
<b>Y933CME</b>	—	$\frac{3}{4}$ " / 19mm x 10' / 3m	A28	6	2.1/.95	<b>RY33CME</b>	—
<b>Y935CME</b>	—	$\frac{3}{4}$ " / 19mm x 16' / 5m	A28	6	2.9/1.3	<b>RY35CME</b>	—
<b>Y922CM</b>	—	13mm x 2m	A29	6	1.1/.50	<b>RY22CM</b>	—
<b>Y923CM</b>	—	13mm x 3m	A29	6	1.4/.64	<b>RY23CM</b>	—
<b>Y933CM</b>	—	19mm x 3m	A29	6	2.0/.91	<b>RY33CM</b>	—
<b>Y935CM</b>	—	19mm x 5m	A29	6	2.9/1.3	<b>RY35CM</b>	—

Please see pages 7—10 for blade styles.

Order by catalog number and/or replacement number shown in bold.


## Springs and belt clips for tape rules

Description	Cat. No.	N/S No.
<b>Spring</b>		
S4 for W926, W928 Mezurall	427331	45567
S5 for W9210, S912 Mezurall	427333	45568
S6 for C9310, C9312, W9312 Mezurall	427335	45569
LP3 for W7212 Lokmatic	427605	45574
LP4 for W7312 Lokmatic	427607	45575
LP5 for W7316 Lokmatic	427609	45576
LP7 for Y12-12 Ultralok	427613	45577
LP8 for Y16, W7316, W9316	427615	45578
LP9 for Y25	427617	45579
<b>Belt clips</b>		
BC3 for W926, W928, W9210, W9312	427277	45581
BC4 for W728, W7210, W7316	427279	45582
BC6 for Y12, Y16, Y25, Y210, Y212, Ultralok.	427257	45583

## Unilok



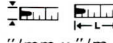
Yellow clad. Lightweight high strength matt-black finished case. Positive toggle lock holds blade securely at any length for accurate measurement. Built-in shock absorber cushions blade return. Removable belt clip. Available in widths of  $\frac{1}{2}$ "/13mm,  $\frac{3}{4}$ "/19mm and 1"/25mm and up to 25'/8m in length. Easy to read black numerals on yellow background.

Cat. No.	N/S No.	 "/mm x '/m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
8010	45700	$\frac{1}{2}$ " x 10'	A1	6	1.7/.77	—	—
8012	45701	$\frac{1}{2}$ " x 12'	A1	6	1.8/.82	—	—
8312	45674	$\frac{3}{4}$ " x 12'	A2	6	2.3/1.0	—	—
8316	45675	$\frac{3}{4}$ " x 16'	A2	6	3.1/1.4	—	—
8325	45676	$\frac{3}{4}$ " x 25'	A2	6	4.6/2.0	—	—
8425	45743	1" x 25'	A10	6	5.9/2.6	—	—

Please see pages 7—10 for blade styles.

## Unilok (export only)




Cat. No.	N/S No.	 "/mm x '/m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
Y822CME	—	$\frac{1}{2}$ "/13mm x 6'/2m	A28	6	1.4/.64	RY22CME	—
Y823CME	—	$\frac{1}{2}$ "/13mm x 10'/3m	A28	6	1.7/.81	RY23CME	—
Y824CME	—	$\frac{1}{2}$ "/13mm x 13'/4m	A28	6	1.3/.63	RY24CME	—
Y834CME	—	$\frac{3}{4}$ "/19mm x 13'/4m	A28	6	2.3/1.0	RY34CME	—
Y835CME	—	$\frac{3}{4}$ "/19mm x 16'/5m	A28	6	3.0/1.4	RY35CME	—
Y835ME	—	$\frac{3}{4}$ "/19mm x 16'/5m	A28	6	3.0/1.4	RY35CME	—
Y838CME	—	$\frac{3}{4}$ "/19mm x 26'/8m	A28	6	4.6/2.1	RY38CME	—
Y822CM	—	13mm x 2m	A29	6	1.3/.60	RY22CM	—
Y823CM	—	13mm x 2m	A29	6	1.7/.80	RY23CM	—
Y824CM	—	13mm x 4m	A29	6	1.2/.59	RY24CM	—
Y834CM	—	19mm x 4m	A29	6	2.3/1.0	RY34CM	—
Y835CM	—	19mm x 5m	A29	6	3.0/1.3	RY35CM	—
Y838CM	—	19mm x 8m	A29	6	4.4/2.0	RY38CM	—
Y8212	—	$\frac{1}{2}$ " x 12'	A1	6	1.5/.70	—	—
Y8312	—	$\frac{3}{4}$ " x 12'	A2	6	2.3/1.0	—	—
Y8316	—	$\frac{3}{4}$ " x 16'	A2	6	3.0/1.4	—	—
Y8325	—	$\frac{3}{4}$ " x 25'	A2	6	4.6/2.1	—	—

Please see pages 7—10 for blade styles.

## Economy



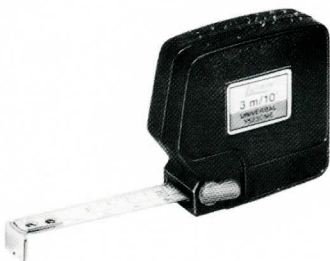
Yellow clad. Lightweight—6'/2m model is 2 oz. High strength matt-black finished case.

Cat. No.	N/S No.	 "/mm x '/m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
<b>Y826</b> (W826)	45794	$\frac{1}{2}$ " x 6'	A1	6	.96/.43	<b>RW6</b> (RY6)	45010
<b>Y8210</b> (W8210)	45796	$\frac{1}{2}$ " x 10'	A1	6	1.4/.65	<b>RY210</b> (RY10) (RW10)	45023
<b>Y8212</b> (W8212)	45798	$\frac{1}{2}$ " x 12'	A1	6	1.5/.70	<b>RW12</b> (RY12) (RY212)	45038
<b>Y822ME</b> (W826ME)	45795	$\frac{1}{2}$ "/13mm x 6'/2m	A11	6	1.0/.45	<b>RW6ME</b> (RY6ME)	45011
<b>Y823ME</b> (W8210ME)	45797	$\frac{1}{2}$ "/13mm x 10'/3m	A11	6	1.4/.65	<b>RW10ME</b> (RY10ME) (RY23ME)	45024

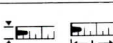
Please see pages 7—10 for blade styles.

Order by catalog number and/or replacement number shown in bold.

## Universal (export only)



Yellow clad. Positive lock. Lightweight, high strength matt-black case.

Cat. No.	N/S No.	 "/mm x '/m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
Y526	—	$\frac{1}{2}$ " x 6'	A1	6	.97/.44	RY6	—
Y5210	—	$\frac{1}{2}$ " x 10'	A1	6	1.3/.59	RY10	—
Y5212	—	$\frac{1}{2}$ " x 12'	A1	6	1.6/.72	RY12	—
Y522CME	—	$\frac{1}{2}$ "/13mm x 6'/2m	A28	6	1.0/.45	RY22CME	—
Y523CME	—	$\frac{1}{2}$ "/13mm x 10'/3m	A28	6	1.3/.59	RY23CME	—
Y522CM	—	13mm x 2m	A29	6	.95/.43	RY22CM	—
Y523CM	—	13mm x 3m	A29	6	1.3/.59	RY23CM	—

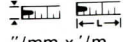
Please see pages 7—10 for blade styles.



## Pee Wee



Yellow clad. High strength matt-black case. Manual operation. Pocket size ideal for office or home.  $\frac{1}{4}$ "/6mm wide blade is flexible; bold black and red graduations on yellow background help to give quick accurate readings.

Cat. No.	N/S No.	 "/mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
W616	45857	$\frac{1}{4}$ " x 6'	A16	6	.52/.24	RW616	45861
W618	45859	$\frac{1}{4}$ " x 8'	A16	6	.61/.28	RW618	45862
W6110	45854	$\frac{1}{4}$ " x 10'	A16	6	.72/.33	RW6110	45863
W616ME	45858	$\frac{1}{4}$ "/6mm x 6'/2m	A17	6	.55/.25	—	—

The following tapes are available for export.

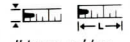
Y616	—	$\frac{1}{4}$ " x 6'	A16	6	.95/.43	—	—
Y6110	—	$\frac{1}{4}$ " x 10'	A16	6	1.0/.45	—	—
Y612ME	—	$\frac{1}{4}$ "/6mm x 6'/2m	A17	6	.95/.43	—	—
Y613ME	—	$\frac{1}{4}$ "/6mm x 10'/3m	A17	6	1.0/.45	—	—
Y612M	—	6mm x 2m	A13	6	.95/.43	—	—
Y613M	—	6mm x 3m	A13	6	1.0/.45	—	—

Please see pages 7—10 for blade styles.

## Specialty tapes Executive® Tinline



Yellow clad. Polished chrome case. Spring action returns blade to case. Convenient for office, briefcase and pocket. Easy to read bold black and red print on white background.

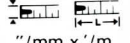
Cat. No.	N/S No.	 "/mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
W606	45855	$\frac{1}{4}$ " x 6'	A16	6	.65/.29	RW616	45861
W608	45856	$\frac{1}{4}$ " x 8'	A16	6	.74/.34	RW618	45862
W606ME	45852	$\frac{1}{4}$ "/6mm x 6'/2m	A17	6	.53/.24	—	—

Please see pages 7—10 for blade styles.

## Executive® Diameter

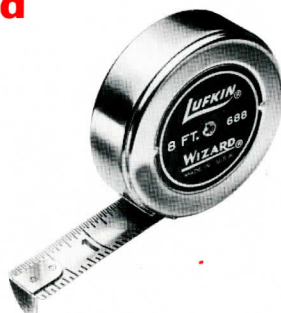


Yellow clad. Polished chrome case. Spring action returns blade to case. Designed for measuring diameters of pipes, cables, tires or any circular objects. Zero falls in the same place on each side of the blade; conversion from diameter to circumference is made simply by turning the blade. Model W606P shows diameter inches to  $\frac{1}{64}$ ths, W606PD to 100ths, W606PM to millimeters.


Cat. No.	N/S No.	 "/mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
W606P	45850	$\frac{1}{4}$ " x 6'	A18	6	.52/.24	—	—
W606PD	45851	$\frac{1}{4}$ " x 6'	A19	6	.53/.24	RW06PD	45860
W606PM	45853	6mm x 2m	A20	6	.54/.24	—	—

Please see pages 7—10 for blade styles.

## Wizard



Easy to read nickel plated blade and chrome plated steel case assure you of a long lasting measuring tool. End hook is stationary.

Cat. No.	N/S No.	 "/mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
688	45351	$\frac{5}{8}$ " x 8'	A21	6	2.0/.91	—	—
6810	45503	$\frac{5}{8}$ " x 10'	A21	6	.35/.16	—	—

Please see pages 7—10 for blade styles.

## Wizard Junior



Nickel clad. Chrome plated case. End hook is self-adjusting.

Cat. No.	N/S No.	" /mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
1688	45461	$\frac{1}{2}$ " x 8'	A21	6	1.1/.53	—	—

Please see pages 7 – 10 for blade style.

## Nubian steel pocket tape



Nubian clad. Easy to carry steel pocket tape with chrome-plated case designed for long wear. Raised steel markings contrast with black background for legibility. Blades hold fast at any length with push-button spring return.

Cat. No.	N/S No.	" /mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
146P	45121	$\frac{1}{4}$ " x 6'	A24	1	1.0/.47	0146P	45122
146PD	45123	$\frac{1}{4}$ " x 6'	A25	1	1.0/.49	0146PD	45124
146ME	45119	$\frac{1}{4}$ " /6mm x 6'/2m	A27	1	1.0/.49		

Please see pages 7 – 10 for blade styles.

## Architect's pocket scale



Yellow clad. Manual or automatic return operation available in these special purpose tape rules. The  $\frac{1}{4}$ " /6mm white steel blade has jet black markings.

Cat. No.	N/S No.	" /mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
W393 (Manual)	45848	$\frac{1}{4}$ " x 5'	A23	1	1.0/.49	—	—
W605A (Automatic)	45849	$\frac{1}{4}$ " x 5'	A23	6	.51/.23	—	—

Please see pages 7 – 10 for blade style.

## M.D. (medical) tape



Metric and English markings show clearly on this M.D. tape rule.

Cat. No.	N/S No.	" /mm x ' /m	Std. Pack	Pack Wt. lb/kg	Blade Style
PW156ME	45864	$\frac{1}{4}$ " /6mm x 6'/2m	6	.99/.45	A17

Please see pages 7 – 10 for blade style.

## Woven pocket tapes



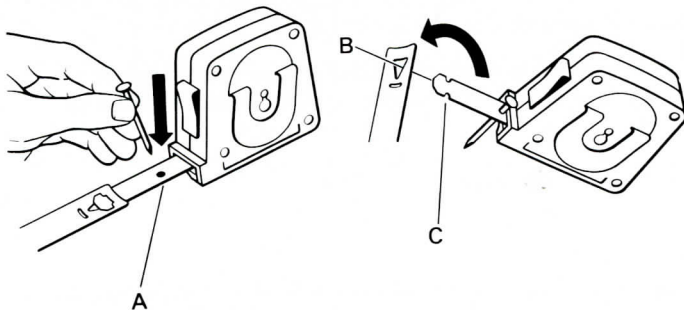
Durable dacron blade. Chrome-plated case designed for long wear.

Cat. No.	N/S No.	" /mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
3176ME	45478	$\frac{1}{4}$ " /6mm x 6'/2m	A14	6	.99/.45	—	—

Please see pages 7 – 10 for blade style.



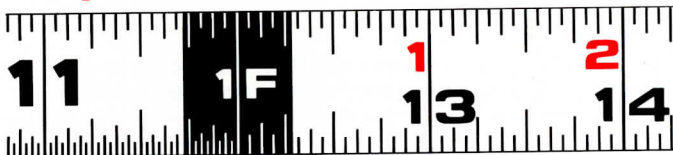
## How to change short tape blades



1. Pull old blade out past end until about 2 inches of bluish metal spring is exposed. Put a nail in round hole (A) in spring to hold it.
2. Note how old blade is attached, then remove it.
3. New blade is reverse wound, ready to attach to spring. With blade graduations up, turn spring sideways and insert from bottom into slot (B) in new blade. Twist spring and pull back until notches (C) lock at rear of slot (B).
4. Remove nail and return blade to case.

## Short tapes: blade styles A1 – A29

### A1 yellow clad



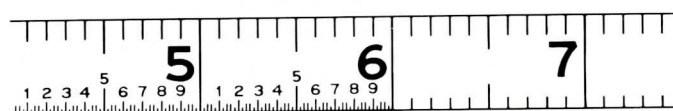
$\frac{1}{2}$ ",  $\frac{3}{4}$ " and 1" widths.  
Black and red markings one side only. Feet and inches to  $\frac{1}{8}$ ths top edge. Consecutive inches to  $\frac{1}{8}$ ths bottom edge; first 12 inches to  $\frac{1}{2}$ nds. Black color blocks designate feet. 16 inch centers are designated in red.

### A2 yellow clad



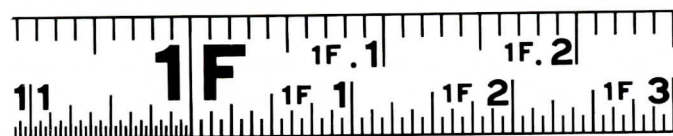
$\frac{3}{4}$ " and 1" widths.  
Black and red markings one side only. Feet and inches to  $\frac{1}{8}$ ths top edge. Consecutive inches to  $\frac{1}{8}$ ths bottom edge; first 12 inches to  $\frac{1}{2}$ nds. Color blocks designate feet and 16 inch centers.

### A3 chrome clad



$\frac{1}{2}$ " width only.  
Black markings one side only. Graduated to  $\frac{1}{16}$ ths of inches on both edges with the first 6 inches on lower edge, graduated to  $\frac{1}{8}$ ths.

### A4 yellow clad



$\frac{3}{4}$ " width only.  
Black markings one side only. Graduated feet,  $\frac{1}{10}$ ths and  $\frac{1}{100}$ ths on top edge; feet, inches and  $\frac{1}{8}$ ths on bottom edge. First 12 inches bottom edge to  $\frac{1}{2}$ nds.

### A5 yellow clad Engineer's



$\frac{3}{4}$ " / 19mm width only.  
Black markings one side only. Lower edge graduated feet,  $\frac{1}{10}$ ths, and  $\frac{1}{100}$ ths on top edge, upper edge graduated in consecutive millimeters.

### A6 yellow clad



$\frac{3}{4}$ " width only.  
Black and red markings one side only. Graduations read right to left and left to right. Both edges graduated feet and inches to  $\frac{1}{8}$ ths. Color blocks designate feet and 16 inch centers.

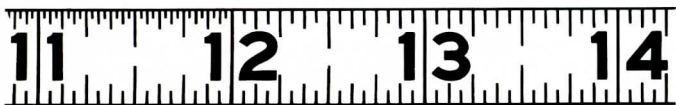
## A7 chrome clad



$\frac{1}{2}$ " width only.

Black markings, one side only. Graduated to  $\frac{1}{16}$ ths of inches on both edges with the first 6 inches on lower edge graduated to  $\frac{1}{50}$ ths.

## A8 chrome clad



$\frac{1}{2}$ " width only.

Black markings one side only. Graduated feet and  $\frac{1}{8}$ ths on top edge; feet and  $\frac{1}{8}$ ths on bottom edge. First 12 inches top edge to  $\frac{1}{32}$ nds.

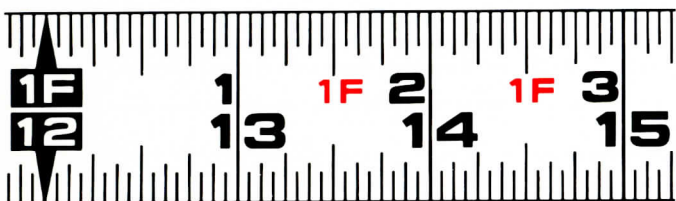
## A9 yellow clad and chrome clad



13mm and 19mm width.

Black and red markings on one side only. Both edges graduated to millimeters. Blade reads instantaneously with meter numbering within each decimeter. Every centimeter is numbered consecutively within each meter. Decimeter and meter numbers are red.

## A10 yellow clad



1" width only.

Black and red markings one side only. Feet and inches to  $\frac{1}{8}$ ths top edge. Consecutive inches to  $\frac{1}{8}$ ths bottom edge. Color blocks designate feet and 16 inch centers.

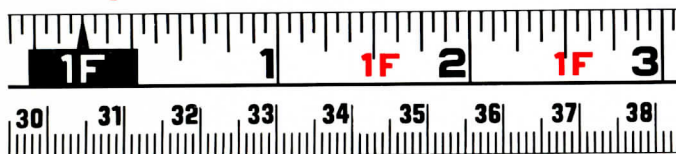
## A11 yellow clad and chrome clad



$\frac{1}{2}$ " / 13mm width only.

Black and red markings one side only. Upper edge graduated in feet and inches to  $\frac{1}{8}$ ths, first 12 inches to  $\frac{1}{32}$ nds. Lower edge graduated in millimeters, numbered centimeters.

## A12 yellow clad



$\frac{3}{4}$ " / 19mm width only.

Black and red markings one side only. Upper edge graduated in feet and inches to  $\frac{1}{8}$ ths, first 12 inches to  $\frac{1}{32}$ nds. Lower edge graduated in millimeters, numbered centimeters.

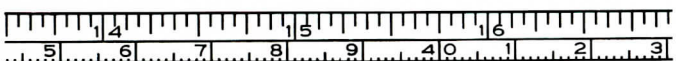
## A13 yellow clad



6mm width only.

Black and red markings on one side only. Graduated to millimeters on lower edge, numbered in centimeters. Red markings every 10 cm.

## A14 woven

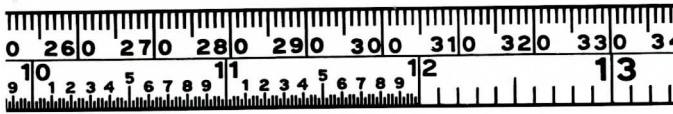


$\frac{1}{4}$ " / 6mm width only.

Black markings on one side only. Graduated feet and inches to  $\frac{1}{8}$ ths on top edge; lower edge graduated in millimeters, numbered centimeters.



## A15 yellow clad



$\frac{1}{2}$ " / 13mm width only.

Black markings one side only. Lower edge graduated in  $\frac{1}{16}$ ths (.02) of a foot for the first foot and  $\frac{1}{16}$ ths of inches the balance (120 inches). Top edge graduated in consecutive millimeters.

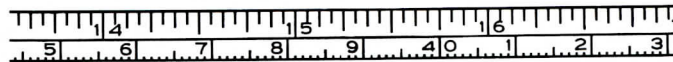
## A16 yellow clad



$\frac{1}{4}$ " width only.

Black and red markings one side only. Consecutive inches to  $\frac{1}{8}$ ths bottom edge; first 12 inches to  $\frac{1}{32}$ nds; 16 inch centers designated by diamond. Every 12th inch in red.

## A17 yellow clad



$\frac{1}{4}$ " / 6mm width only.

Black and red markings one side only. Upper edge graduated in inches to  $\frac{1}{8}$ ths; first 12 inches to  $\frac{1}{32}$ nds. Lower edge graduated in millimeters, numbered in centimeters.

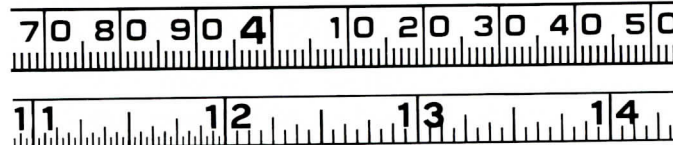
## A18 yellow clad



$\frac{1}{4}$ " width only.

Marked on both sides. Consecutive inches to  $\frac{1}{16}$ ths, first 12 inches to  $\frac{1}{32}$ nds on one side; diameter inches to  $\frac{1}{8}$ ths other side. Blank space ahead of zero.

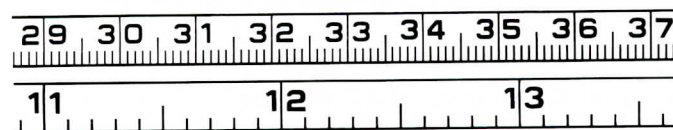
## A19 yellow clad



$\frac{1}{4}$ " width only.

Marked on both sides. Consecutive inches to  $\frac{1}{8}$ ths, first 12 inches to  $\frac{1}{32}$ nds on one side; diameter inches to  $\frac{1}{16}$ ths other side. Blank space ahead of zero.

## A20 yellow clad



6mm width only.

Marked on both sides. Consecutive centimeters to millimeters one side; diameter to millimeters other side, numbered in centimeters.

## A21 chrome clad and nickel clad



$\frac{1}{2}$ " and  $\frac{5}{8}$ " widths.

Black markings one side only. Graduated consecutive inches to  $\frac{1}{16}$ ths, first 12 inches of top edge to  $\frac{1}{32}$ nds. 16 inch centers designated.

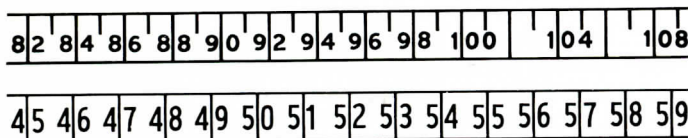
## A22 chrome clad



$\frac{1}{2}$ " / 13mm width only.

Black markings one side only. Graduated in consecutive inches to  $\frac{1}{16}$ ths, first 12 inches to  $\frac{1}{32}$ nds on lower edge. Top edge graduated in millimeters, numbered in centimeters.

## A23 yellow clad



$\frac{1}{4}$ " width only.

Black markings on both sides. One side marked  $\frac{1}{8}$  inch scale (1 to 240), other side has  $\frac{1}{16}$ th inch scale (1 to 480).

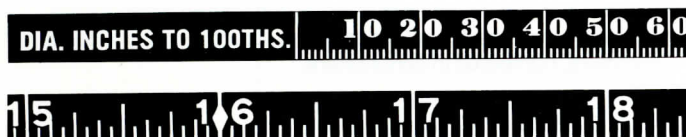
## A24 nubian



$\frac{1}{4}$ " width only.

Markings on both sides. One side graduated consecutive inches to  $\frac{1}{8}$ ths; other side diameter inches in  $\frac{1}{16}$ ths. Blank space ahead of zero.

## A25 nubian



$\frac{1}{4}$ " width only.

Markings on both sides. One side graduated consecutive inches to  $\frac{1}{8}$ ths; other side diameter inches in 100ths. Blank space ahead of zero.

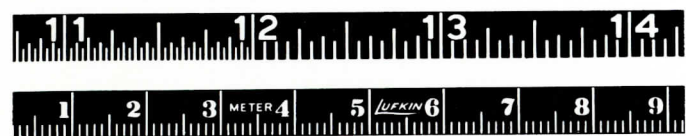
## A26 nubian



6mm width only.

Markings on both sides. One side graduated consecutive centimeters to millimeters; other side diameter to millimeters.

## A27 nubian



$\frac{1}{4}$ " / 6mm width only.

Marked on both sides. Millimeter one side; consecutive inches to  $\frac{1}{8}$ ths other side. Blank space ahead of zero.

## A28 yellow clad and chrome clad



$\frac{1}{2}$ " / 13mm,  $\frac{3}{4}$ " / 19mm and 1" / 27mm widths.

Markings one side only. System International metric one edge graduated to millimeters, numbered centimeters. English other edge to  $\frac{1}{8}$ ths, first foot to  $\frac{1}{2}$ nds, continuous inches. Feet and 10 cm marked in red.

## A29 yellow clad



13mm and 19mm widths.

Markings on one side only. System International metric one edge graduated to millimeters, numbered centimeters.



## Long tapes

### General information

Lufkin tapes and rules are manufactured to comply with U.S. Government Specifications Boards requirements for accuracy. Our bench mark standards are certified by the National Bureau of Standards.

Standard temperature for steel tapes is 20°C (68°F); Coefficient of expansion for steel tapes is 0.0000116 per degree Celsius/0.00000645 per degree Fahrenheit.

Standard tension for most long steel tapes, when fully supported throughout their entire length, is 50N (10 lbs. for English only tapes).

Surveyor's tapes of heavy gauge steel have a standard tension of 75N (10 lbs. for English up to 100 ft. long and 20 lbs. for English over 100 ft. long).

All Lufkin steel tapes have a clear abrasive resistant protection to provide wear and corrosion resistance.

### Long tapes

#### Prefixes

C—	Chrome clad
Y—	Yellow clad
H—	Hook ring at zero
R—	Replacement blade
CD—	Chrome clad derrick

#### Suffixes

M—	Metric graduations
MM—	Metric graduations/millimeter numbering
MME—	Metric/English graduations
ME—	Metric/English graduations
D—	Feet/decimal feet graduations
DMM—	Feet/decimal feet/Metric graduations
B—	Feet/decimal feet with add-on leader
MB—	Metric with add-on leader
CM—	Metric graduations/centimeter numbering
CME—	Metric/English graduations

## Anchor



Chrome clad. Professional tradesman's quality tape, housed in a rugged, vinyl-covered steel case with large easy action plated metal winding drum and nylon friction washers. Nylon roller guides the tape smoothly in and out of the case. Available in  $\frac{3}{8}$ " / 10mm and up to 164' / 50m in length.

Cat. No.	N/S No.	$\frac{3}{8}$ " / 10mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
C213	45140	$\frac{3}{8}$ " x 50'	B1	1	1.0/.48	OC213	45144
C216	45160	$\frac{3}{8}$ " x 100'	B1	1	1.7/.81	OC216	45164
C217	45665	$\frac{3}{8}$ " x 150'	B1	1	2.4/1.1	OC217	45741
C216- $\frac{1}{8}$ BLK	45167	$\frac{3}{8}$ " x 100'	B2	1	1.7/1.8	OC216- $\frac{1}{8}$ BLK	45168
C213C	45151	$\frac{3}{8}$ " x 600"	B3	1	1.0/.47	OC213C	45152
C213CX	45153	$\frac{3}{8}$ " x 600"	B4	1	1.0/.49	OC213CX	45154
C213D	45155	$\frac{3}{8}$ " x 50'	B5	1	1.0/.49	OC213D	45156
C216D	45169	$\frac{3}{8}$ " x 100'	B5	1	1.7/.80	OC216D	45170
HC216D	45173	$\frac{3}{8}$ " x 100'	B5	1	1.7/.80	—	—
C216DM	45162	$\frac{3}{8}$ " / 10mm x 100' / 30m	B6	1	1.8/.82	—	—

Please see pages 15—17 for blade styles.

## Leader®



Chrome clad. Sturdy, rust-resistant steel case has a tough, black vinyl cover. Nylon rollers guide the tape smoothly in and out of the case. Jet-black markings are bonded to the steel and recessed below the hard chrome surface, giving this tape line the best finish for resistance to wear, rust and heat. Fitted with a folding end hook ring.

Cat. No.	N/S No.	$\frac{3}{8}$ " / 10mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
HC253*	45201	$\frac{3}{8}$ " x 50'	B1	1	.86/.39	OHC253	45202
HC256*	45206	$\frac{3}{8}$ " x 100'	B1	1	1.6/.72	OHC256	45207

The following tapes are available for export.

HC215MM	—	10mm x 15m	B17	1	.88/.40	RHC215MM	—
HC220MM	—	10mm x 20m	B17	1	1.2/.54	RHC220MM	—
HC230MM	—	10mm x 30m	B17	1	1.5/.68	RHC230MM	—
HC215MME	—	$\frac{3}{8}$ " / 10mm x 50' / 15m	B18	1	.88/.40	RHC215MME	—
HC220MME	—	$\frac{3}{8}$ " / 10mm x 66' / 20m	B18	1	1.2/.54	RHC220MME	—
HC230MME	—	$\frac{3}{8}$ " / 10mm x 100' / 30m	B18	1	1.5/.68	RHC230MME	—
HC253*	—	$\frac{3}{8}$ " x 50'	B1	1	.86/.39	RHC253	—
HC256*	—	$\frac{3}{8}$ " x 100'	B1	1	1.6/.72	RHC256	—

Please see pages 15—17 for blade styles.

\* Available in master carton of 24.

## Challenge



Nubian Stainless steel (S263). Case, drum assembly and etched tape line are designed to perform for years. Tape line is housed in a rugged, vinyl-covered steel case with a large, easy action, plated metal winding drum and nylon friction washers. Nylon rollers guide the tape smoothly in and out of the case. "T" in the suffix of the number denotes a tree tape which is fitted with a special claw hook designed for anchoring in tree bark when measuring diameter. "P" in suffix denotes diameter.

Cat. No.	N/S No.	" x '	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
263P	45209	$\frac{3}{8}$ " x 50'	B11	1	.87/.39	0263P	45210
263TP	45211	$\frac{3}{8}$ " x 50'	B13	1	.91/.41	—	—
S263	45212	$\frac{3}{8}$ " x 50'	B10	1	—	—	—

Please see pages 15 – 17 for blade styles.

## Royal Ni-Clad



Nickel plated long steel tape housed in a rugged, vinyl-covered steel case with large easy action plated metal winding drum and nylon friction washers. Nylon rollers guide the tape smoothly in and out of the case. "H" prefix denotes product blade is fitted with a folding hook ring.

Cat. No.	N/S No.	" /mm x ' /m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
H433	45264	$\frac{3}{8}$ " x 50'	B1	1	—	OH433	45266
H436	45270	$\frac{3}{8}$ " x 100'	B1	1	10.6/4.8	OH436	45272

Please see pages 15 – 17 for blade styles.

## Speedwinder™

**New!**



The new Lufkin Speedwinder tape features a revolutionary new design concept that enables the user to extend, measure and rewind in less time than conventional long steel tape. Yellow clad tape line with easy-to-read bold black markings, protected by an abrasive resistant coating, stands up against rugged measuring. Impact-resistant, attractive, self-standing case.

Cat. No.	N/S No.	" x '	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
HYT50	45815	$\frac{3}{8}$ " x 50'	B1	6	5.4/2.4	RHYT50	45817
HYT100	45816	$\frac{3}{8}$ " x 100'	B1	6	8.2/3.7	RHYT100	45818


Please see pages 15 – 17 for blade style.



## Banner



Yellow clad. Professional tradesman's quality tape is .008" / 0.2mm thick and housed in a rugged, vinyl-covered steel case with large easy action plated metal winding drum and nylon friction washers. Nylon rollers guide the tape smoothly in and out of the case. H prefix denotes product blade is fitted with a folding hook ring. Available in  $\frac{3}{8}$ " / 10mm width and up to 164' / 50m in length. Bold graduations with black and red numbers make for accurate measuring.

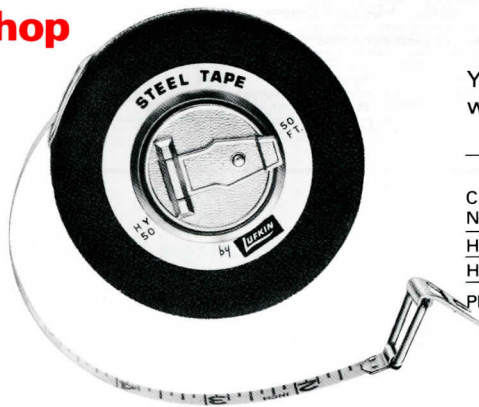
Cat. No.	N/S No.	 $\frac{3}{8}$ " / mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
HW223	45886	$\frac{3}{8}$ " x 50'	B1	6	6.5/2.9	OHW223	45889
HW223D	45890	$\frac{3}{8}$ " x 50'	B5	1	1.0/.48	OHW223D	45891
HW223ME	45888	$\frac{3}{8}$ " / 10mm x 50' / 15m	B9	1	1.0/.48	—	—
HW226	45894	$\frac{3}{8}$ " x 100'	B1	6	10.2/4.74	OHW226	45895
HW226D	45896	$\frac{3}{8}$ " x 100'	B5	1	1.7/.79	OHW226D	45891
HW226ME	45898	$\frac{3}{8}$ " / 10mm x 100' / 30m	B9	1	1.7/.79	—	—
HW227ME	45903	$\frac{3}{8}$ " / 10mm x 164' / 50m	B9	1	2.5/1.1	—	—

The following are available for export.


HW223	—	$\frac{3}{8}$ " x 50'	B1	6	6.5/2.9	RHW223	—
HW223D	—	$\frac{3}{8}$ " x 50'	B5	1	1.0/.48	RHW223D	—
HW226	—	$\frac{3}{8}$ " x 100'	B1	6	10.2/4.74	RHW226	—
HW226D	—	$\frac{3}{8}$ " x 100'	B5	1	1.7/.79	RHW226D	—
HY215CM	—	10mm x 15m	B20	1	1.1/.50	RHY215CM	—
HY220CM	—	10mm x 20m	B20	1	1.2/.54	RHY220CM	—
HY230CM	—	10mm x 30m	B20	1	1.6/.72	RHY230CM	—
HY250CM	—	10mm x 50m	B20	1	2.5/1.1	RHY250CM	—
HY215CME	—	$\frac{3}{8}$ " / 10mm x 50' / 15m	B19	1	1.1/.50	RHY215CME	—
HY220CME	—	$\frac{3}{8}$ " / 10mm x 66' / 20m	B19	1	1.2/.54	RHY220CME	—
HY230CME	—	$\frac{3}{8}$ " / 10mm x 100' / 30m	B19	1	1.8/.82	RHY230CME	—
HY250CME	—	$\frac{3}{8}$ " / 10mm x 164' / 50m	B19	1	2.3/1.0	RHY250CME	—

Please see pages 15—17 for blade styles.

## Home shop



Yellow clad. Vinyl covered steel case. Large easy action plated metal winding drum and nylon friction washers. Fitted with a folding hook ring.

Cat. No.	N/S No.	 $\frac{3}{8}$ " / mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
HY50	45882	$\frac{3}{8}$ " x 50'	B1	6	4.2/1.9	OHW50	45883
HY100	45884	$\frac{3}{8}$ " x 100'	B1	6	7.1/3.2	OHW100	45885

Please see pages 15—17 for blade style.

## Universal lightweight

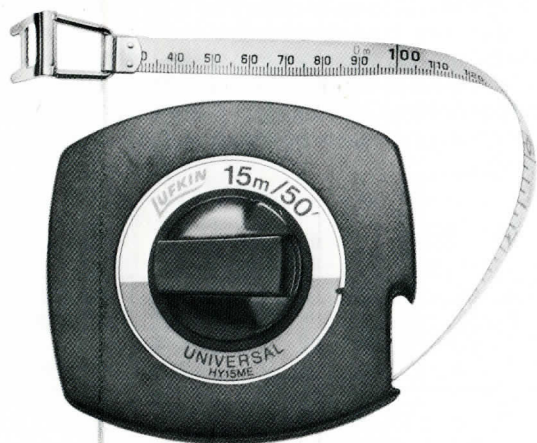


Yellow clad. High impact polystyrene case. Easy wind nylon drum. Hook ring is retained neatly in the contoured mouth of the case. Lightweight 0.005" / 0.13mm thick steel with easy-to-read black and red markings.

Cat. No.	N/S No.	 $\frac{3}{8}$ " / mm x ' / m	Blade Style	Std. Pack	Pack Wt. lb/g	Repl. Blade No.	N/S No.
50	45068	$\frac{3}{8}$ " x 50'	B1	6	—	OY50	45071
100	45100	$\frac{3}{8}$ " x 100'	B1	6	—	OY100	45103

Please see pages 15—17 for blade style.

## Universal (export only)



Yellow clad. Lightweight 0.005" / 0.13mm thick steel with easy-to-read black and red markings on yellow background protected by an abrasive resistant coating. The high impact polystyrene case and nylon winding drum provide a smooth winding action. Hook ring is retained neatly in the contoured mouth of the case.

Cat. No.	N/S No.	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
HY50	—	$\frac{3}{8}$ " x 50'	B1	5	2.8/1.3	RHY50
HY100	—	$\frac{3}{8}$ " x 100'	B1	5	4.7/2.1	RHY100
HY15CME	—	$\frac{3}{8}$ " / 10mm x 50' / 15m	B19	5	2.8/1.3	RHY15CME
HY20CME	—	$\frac{3}{8}$ " / 10mm x 66' / 20m	B19	5	3.3/1.5	RHY20CME
HY30CME	—	$\frac{3}{8}$ " / 10mm x 100' / 30m	B19	5	4.7/2.1	RHY30CME
HY15CM	—	10mm x 15m	B19	5	2.8/1.3	RHY15CM
HY20CM	—	10mm x 20m	B20	5	3.3/1.5	RHY20CM
HY30CM	—	10mm x 30m	B20	5	4.7/2.1	RHY30CM

Please see pages 15 – 17 for blade styles.

## Artisan diameter and tree tapes



Chrome clad and nubian. Tapeline is 0.2mm thick, housed in a rugged, vinyl-covered steel case with a large easy action, plated metal winding drum and nylon friction washers. Nylon rollers guide the tape smoothly in and out of the case.

"T" in the suffix of the number denotes a tree tape which is fitted with a special claw hook designed for anchoring in tree bark. "P" in number suffix denotes diameter.

Cat. No.	N/S No.	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
120TP	45110	$\frac{3}{8}$ " x 20'	B13	1	.56/.25	0120TP
C120TP	45112	$\frac{3}{8}$ " x 20'	B13	1	.62/.28	OC120TP
112P	45104	$\frac{3}{8}$ " x 144"	B14	1	.52/.23	0112P
120P	45108	$\frac{3}{8}$ " x 240"	B14	1	.56/.25	0120P

The following tapes are available for export.

C106PM	—	10mm x 6m	B21	1	.50/.23	RC106PM
C106TPM	—	10mm x 6m	B21	1	.50/.23	RC106TPM
C110TPM	—	10mm x 10m	B21	1	—	RC110TPM

Please see pages 15 – 17 for blade styles.

## Millmen's nubian



Nubian. Rugged, vinyl-covered steel case. One man can measure up to 240" or 300" with this tape especially designed for the mill or warehouse. Outstanding readability of raised marking on etched background. Specially designed U-shape hook fits over edge of sheet or tube for one man measurements.

Cat. No.	N/S No.	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
120CH	45106	$\frac{3}{8}$ " x 240"	B13	1	.56/.25	0120CH
125CH	45114	$\frac{3}{8}$ " x 300"	B13	1	.59/.27	0125CH

Please see pages 15 – 17 for blade styles.

## Pole tape



Used primarily by utilities, the pole tape is furnished only without a case. The extra heavy line has raised bright steel markings on a black, etched background. A single measuring gives both circumference and diameter by reading both sides of the tape.

Cat. No.	N/S No.	Blade Style	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
1P	45000	$\frac{1}{4}$ " x 6'	B14	1	.20/.09	—

Please see pages 15 – 17 for blade styles.



## Long steel tapes: blade styles B1 – B14

### B1 chrome clad, yellow clad and nickel clad



$\frac{3}{8}$ " width only.  
Black and red markings one side only. Graduated feet and inches to  $\frac{1}{16}$ ths with instantaneous readings. 16 inch centers are indicated by a diamond.

### B2 chrome clad



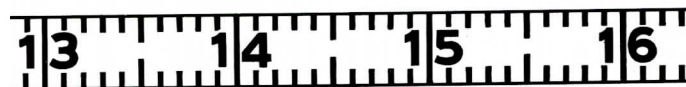
$\frac{3}{8}$ " width only.  
Black markings one side only. Graduated feet and inches to  $\frac{1}{16}$ ths with instantaneous reading. 16 inch centers are indicated by a diamond.

### B3 chrome clad



$\frac{3}{8}$ " width only.  
Black markings one side only. Graduated consecutive inches to  $\frac{1}{16}$ ths.

### B4 chrome clad



$\frac{3}{8}$ " width only.  
Black markings one side only. Graduated consecutive inches to  $\frac{1}{16}$ ths.

### B5 chrome clad and yellow clad



$\frac{3}{8}$ " width only.  
Black markings one side only. Graduations feet to  $\frac{1}{16}$ ths and  $\frac{1}{100}$ ths.

### B6 chrome clad



$\frac{3}{8}$ " / 10mm width only.  
Black and red markings on both sides. Graduated to  $\frac{1}{16}$ ths and  $\frac{1}{100}$ ths of feet on one side; other side graduated to millimeters, with instantaneous meter numbers at every 100mm.

### B7 chrome clad



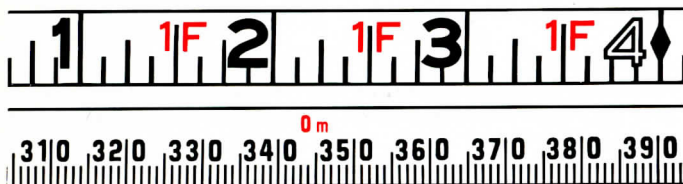
10mm widths only.  
Black markings one side only. Numbered in meters and millimeters, with instantaneous meter numbers at every 100mm.

### B8 chrome clad and nickel clad



$\frac{3}{8}$ " / 10mm width only.  
Black markings on both sides. One side graduated feet and inches to  $\frac{1}{16}$ ths with instantaneous readings; other side in millimeters with instantaneous meter numbers at every 100mm. Both sides have a blank space between end ring and zero.

## B9 yellow clad



$\frac{3}{8}$ " / 10mm width only.

Black and red markings on both sides. One side graduated feet and inches to  $\frac{1}{8}$ ths with instantaneous reading; other side graduated in consecutive millimeters with instantaneous meter numbers at every 100mm.

## B10 nubian



$\frac{3}{8}$ " width only.

Marked one side only. Graduated feet, inches and  $\frac{1}{8}$ ths.

## B11 nubian



$\frac{3}{8}$ " width only.

Marked on both sides. Graduated feet, inches and  $\frac{1}{8}$ ths one side; other side graduated diameter feet and inches.



## B12 nubian



$\frac{3}{8}$ " width only.

Marked on both sides. Graduated consecutive inches to  $\frac{1}{8}$ ths one side; other side to diameter feet and inches.



## B13 nubian



$\frac{3}{8}$ " width only.

Marked on both sides. Graduated  $\frac{1}{16}$ ths and  $\frac{1}{32}$ ths of feet; other side diameter feet and  $\frac{1}{16}$ ths of inches.



## B14 nubian



$\frac{1}{4}$ " width only.

Marked on both sides. Graduated to  $\frac{1}{16}$ ths of an inch, marked in consecutive inches; other side to diameter inches with an extra diameter inch before zero, marked to  $\frac{1}{16}$ ths.





## Long tapes: blade export tapes only

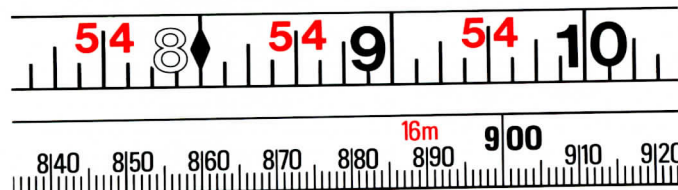
### B17 chrome clad



10mm width only.

Black and red markings on one side only. System International metric to millimeters. Numbered in meters and millimeters with instantaneous meter numbers in red at every 100mm.

### B18 chrome clad



$\frac{3}{8}$ " / 10mm width only.

Black and red markings on both sides. One side graduated in metric to millimeters; the other side in feet, inches and  $\frac{1}{16}$ ths.

### B19 yellow clad



$\frac{3}{8}$ " / 10mm width only.

Black and red markings on both sides. One side graduated in feet and inches to  $\frac{1}{16}$ ths; other side in meters and millimeters numbered in centimeters.

### B20 yellow clad



10mm width only.

Black and red markings on side only. System International metric graduated to millimeters, numbered in centimeters.

### B21 chrome clad



Front for C106TPM and C106PM



Back for C106TPM, C106PM and C110TPM



Front for C110TPM

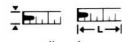
10mm width only.

Marked both sides. One side meters, decimeters and millimeters; other side reads diameter from circumference. C106PM and C106TPM to 2 meters of diameter in millimeters, C110TPM to 3 meters of diameter in centimeters.

## Logger's tape



Rugged, automatic rewind tape used in mills and logging operations. Reel has long durable spring that rewinds tape automatically when spring hook is released. Open side and enclosed working parts prevent dirt and sawdust from clogging reel mechanism. Sharp spike penetrates tree bark easily. Lightweight 0.13m steel tapeline has black and red easy-to-read markings on yellow background. Line graduated feet, inches and  $\frac{1}{8}$ ths, instantaneous reading, with foot markings and 16 inch centers designated.

Cat. No.	N/S No.	 " x '	Std. Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
LW23	45044	$\frac{1}{8}$ " x 50'	1	1.0/.47	OLW23	45045
LH4	45002	Repl. Spike		12/.05		

## Measuring wheel



To measure big jobs quickly and accurately, extend the folding handle, set to zero position on starting point, and start walking. Wheel counts as it measures, totals as it counts. Used by paving contractors, traffic engineers, police officials, landscapers, athletic departments. Used for measuring parking lots, laying out traffic lanes, sizing athletic fields, obtaining automobile accident details involving distances, etc. Indoor applications include measuring for floor covering, room sizes, etc. Has these helpful features:

1. Total distance shown in feet and inches.
2. Knob in center of wheel can be used to set to zero or to preset for desired distances.
3. Handle extends and locks at convenient 34" height; folds easily, compactly.
4. Clearly audible click every two feet permits running count by operator.
5. Loud bell sounds every 100 feet.
6. Traction is provided by two Neoprene tires, precisely ground to correct circumference. Wear-resistant to maintain accuracy during long life.
7. Fine quality leather case is included for storing wheel. With handle folded, wheel requires only 9" x 8" x 2" space.

Cat. No.	N/S No.	lb/kg	Std. Pack
202	45133	3 $\frac{1}{2}$ /170	1



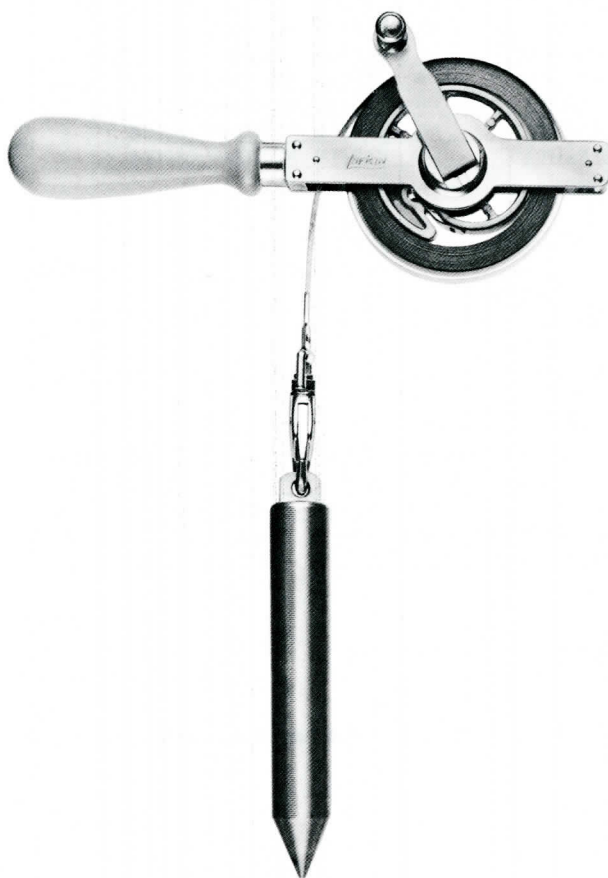
# Oil gaging long tapes

Available in two series, chrome clad for dark and heavy oils and nubian for light and clear oils. These tapes are made from heavy gage 13mm x 0.3mm/.500" x .012" steel and have a snap-swivel hook on the front end of the tape for attachment of the plumb bob. Reels, two arm for shorter lengths, four arm for 30m/100' lengths are ruggedly constructed with large drums and winding handles for quick and easy rewinding.

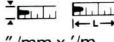
The winding handle folds over for storage and to lock the tape position at any desired point.

Plumb bobs are not supplied with tapes. Final part of catalog number (e.g. /590) denotes which style of bob the tape is made to accept.

## Atlas chrome clad



Black markings bonded to the steel and recessed beneath multiple layers of nickel and chrome electroplating to provide greater resistance to wear and corrosion. All tapes read right to left.

Cat. No.	N/S No.	 " /mm x ' /m	Blade Style	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
C1290S F/590	45406	1/2" x 18'	D1	1.4/.67	OC1290S F/590	45407
C1290S F/590	45410	1/2" x 25'	D1	1.8/.82	OC1290S F/590	45411
C1291S F/590	45414	1/2" x 33'	D1	1.9/.86	OC1291S F/590	45415
C1293S F/590	45425	1/2" x 50'	D1	2.2/.99	OC1293S F/590	45426
C1294S F/590	45435	1/2" x 66'	D1	2.5/1.1	OC1294S F/590	45436
C1295S F/590	45441	1/2" x 75'	D1	2.6/1.2	OC1295S F/590	45442
C1296S F/590	45445	1/2" x 100'	D1	2.5/1.1	OC1296S F/590	45446
C1293S F/587 1/2	45416	1/2" x 50'	D1	2.2/.99	OC1293S F/587	45426
C1294S F/587 1/2	45429	1/2" x 66'	D1	2.5/1.1	OC1294S F/587	45430
C1293SD F/590	45417	1/2" x 50'	D2	2.2/.99	OC1293SD F/590	45418
C1294SD F/590	45744	1/2" x 66'	D2	2.5/1.1	OC1294SD F/590	45745
C1293SME F/590	45422	1/2" /13mm x 50'/15m	D3	2.1/.98	OC1293SME F/590	45427
C1294SME F/590	45437	1/2" /13mm x 66'/20m	D3	2.4/1.1	OC1294SME F/590	45438
C1296SME F/590	45447	1/2" /13mm x 100'/30m	D3	3.3/1.5	OC1296SME F/590	45448

The following tapes are available for export.

C1290S F/590	—	1/2" x 25'	D1	1.8/.82	RC1290S/590	—
C1291S F/590	—	1/2" x 33'	D1	1.9/.86	RC1291S/590	—
C1293S F/587 1/2	—	1/2" x 50'	D1	2.2/.99	RC1293S/587	—
C1293S F/590	—	1/2" x 50'	D1	2.2/.99	RC1293S/590	—
C1294S F/587 1/2	—	1/2" x 66'	D1	2.5/1.1	RC1294S/587	—
C1294S F/590	—	1/2" x 66'	D1	2.5/1.1	RC1294S/590	—
C1296S F/590	—	1/2" x 100'	D1	2.5/1.1	RC1296S/590	—
C2910MME/590GM	—	1/2" /13mm x 33'/10m	D5	1.8/.82	RC2910MME/590GM	—
C2915MME/590GM	—	1/2" /13mm x 50'/15m	D5	2.2/.99	RC2915MME/590GM	—
C2920MME/590GM	—	1/2" /13mm x 66'/20m	D5	2.6/1.2	RC2920MME/590GM	—
C2930MME/590GM	—	1/2" /13mm x 100'/30m	D5	3.5/1.6	RC2930MME/590GM	—
C2910MM/590GM	—	13mm x 10m	D6	1.8/.82	RC2910MM/590GM	—
C2915MM/590GM	—	13mm x 15m	D6	2.2/.99	RC2915MM/590GM	—
C2920MM/590GM	—	13mm x 20m	D6	2.6/1.2	RC2920MM/590GM	—
C2930MM/590GM	—	13mm x 30m	D6	3.5/1.6	RC2930MM/590GM	—
C2910MM/150MM	—	13mm x 10m	D6	1.8/.82	RC2910MM/150MM	—
C2915MM/150MM	—	13mm x 15m	D6	2.2/.99	RC2915MM/150MM	—
C2920MM/150MM	—	13mm x 20m	D6	2.6/1.2	RC2920MM/150MM	—
C2930MM/150MM	—	13mm x 30m	D6	3.5/1.6	RC2930MM/150MM	—

Please see pages 20 – 21 for blade styles.

## Atlas nubian

The etched background of the Atlas nubian tape lines makes this series the choice for gaging clear oils. The heavy duty line is multiple plated for longer wear. The raised bright steel markings are clearly legible and protected by a flowed-on epoxy coating. All tapes read right to left.



Cat. No.	N/S No.	 " / mm x ' / m	Blade Style	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
1290SF/590	45408	$\frac{1}{2}$ " x 25'	D1	1.6/.72	01290SF/590	45409
1291SF/590	45412	$\frac{1}{2}$ " x 33'	D1	1.7/.77	01291SF/590	45413
1293SF/590	45420	$\frac{1}{2}$ " x 50'	D1	2.2/.99	01293SF/590	45421
1294SF/590	45431	$\frac{1}{2}$ " x 66'	D1	2.4/1.1	01294SF/590	45432
1295SF/590	45439	$\frac{1}{2}$ " x 75'	D1	—	01295SF/590	45540
1293SME MEX F/590	45423	$\frac{1}{2}$ " / 13mm x 50' / 15m	D7	2.0/.95	01293SME MEX F/590	45424
1294SME MEX F/590	45433	$\frac{1}{2}$ " / 13mm x 66' / 20m	D7	2.4/1.1	01294SME MEX F/590	45434
1296SME F/590	45443	$\frac{1}{2}$ " / 13mm x 100' / 30m	D7	2.8/1.3	01296SME F/590	45444

The following tapes are available for export.

1290SF/590	—	$\frac{1}{2}$ " x 25'	D1	1.6/.72	R1290S/590	—
1291SF/590	—	$\frac{1}{2}$ " x 33'	D1	1.7/.77	R1291S/590	—
1293SF/590	—	$\frac{1}{2}$ " x 50'	D1	2.2/.99	R1293S/590	—
1294SF/590	—	$\frac{1}{2}$ " x 66'	D1	2.4/1.1	R1294S/590	—
2915MM/150MM	—	13mm x 15m	D6	1.5/.68	R2915MM/150MM	—
2915MM/590GM	—	13mm x 15m	D6	2.1/.95	R2915MM/590GM	—
2920MM/150MM	—	13mm x 20m	D6	2.3/1.0	R2920MM/150MM	—
2920MM/590GM	—	13mm x 20m	D6	2.3/1.0	R2920MM/590GM	—

Note: MEX in suffix stands for Mexican pattern. Please see pages 20—21 for blade styles.

## Atlas stainless steel

Cat. No.	N/S No.	" x '	Blade Style	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
S1293F/590	45682	$\frac{1}{2}$ " x 50'	D1	1.8/.83	OS1293F/590	45428

Please see pages 20—21 for blade styles.

## Atlas oil gaging: blade styles D1—D6

### D1 chrome clad, stainless steel and nubian



$\frac{1}{2}$ " and  $\frac{3}{8}$ " widths. Marked on one side only. Graduated instantaneous feet and inches to  $\frac{1}{16}$ ths.

### D2 chrome clad and nubian



$\frac{1}{2}$ " width only. Marked on one side only. Graduated in feet to  $\frac{1}{10}$ ths and  $\frac{1}{100}$ ths of an inch. Reads left to right.

### D3 chrome clad and nubian



$\frac{1}{2}$ " / 13mm width only. Marked on both sides. Graduated in millimeters on one side; other side instantaneous feet and inches to  $\frac{1}{16}$ ths.



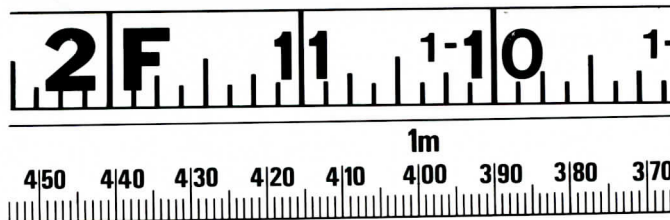


## D4 chrome clad and nubian



13mm width only.  
Marked on one side only. Graduated in millimeters.

## D5 chrome clad



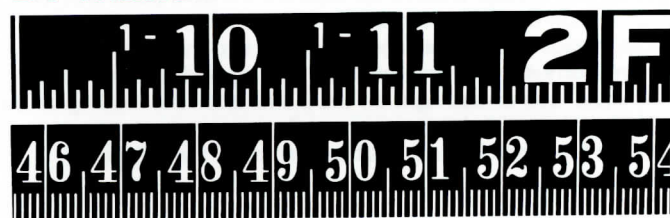
$\frac{1}{2}$ " / 13mm width only.  
Marked on both sides. Graduated feet and inches to  $\frac{1}{8}$ ths, numbered right to left on one side; other side graduated meters to millimeters.

## D6 chrome clad



13mm width only.  
Marked on one side only. Graduated meters to millimeters.

## D7 nubian



$\frac{1}{2}$ " / 13mm width only.  
Marked on both sides. One side graduated feet and inches to  $\frac{1}{8}$ ths; other side graduated meters to millimeters.

## Plumb bobs

### Inage oil gaging plumb bobs



590 (45320). 20-ounce cylindrical shape solid brass bob with tapered point is  $1\frac{1}{2}$ " / 25mm in diameter and  $6\frac{3}{4}$ " / 171mm long overall. Bob face serrated for chalking. For use in heavy oils.

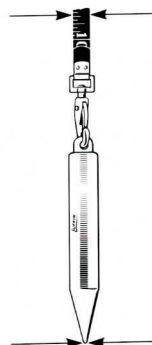
590A (45321). Same as 590 bob, except for removable screw tip point of Ampco metal, which is similar to brass but harder. (Extra tips available — specify TIP. f/590A (45322).

590G (45323). Same as 590 bob, except it is graduated in inches to  $\frac{1}{8}$ ths, reading upward (zero at lower end of point). Point is blunt.

590GM (45324). Same as 590G bob, except graduated millimeters with centimeters numbered.

588 (45319). 6-ounce cone-shaped solid brass bob is  $1\frac{1}{4}$ " / 32mm in diameter and  $2\frac{3}{8}$ " / 60mm long overall. Suitable for lighter oils, gasoline, etc.

## How to measure an inage plumb bob



Tapes cut and fitted with the swivel snap to be used with the 588 and 590 plumb bobs are known as inage gaging tapes. When the plumb bobs are assembled to the swivel snap the zero point is at the bottom of the plumb bob. When being used, the plumb bob and tape are lowered until the bob contacts the bottom of the tank. When the tape is reeled in, the liquid line is read on the tape line itself, thereby showing you the contents of the tank.

# Outage oil gaging plumb bobs

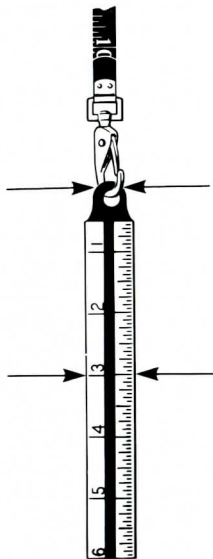


587½

587½(45318). ¾"/19mm square, 15-ounce solid brass bob. 6"/152mm long overall. Graduated in inches to 1/8ths top to bottom. Zero falls inside the top of the hook eye. Eye milled from solid brass block (not removable). Reading taken same as on 587.

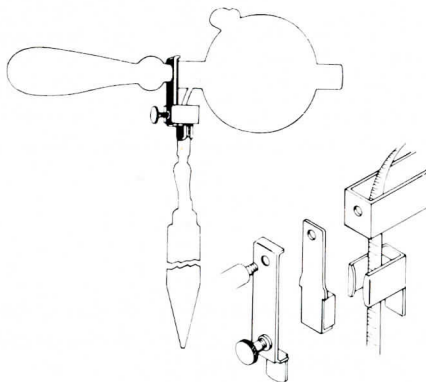
150MM (Export) 150mm long x 22mm square, weighs 540g. Face graduated by millimeters, recessed black strip for easier reading of oil line.

## How to measure with an outage plumb bob



Tapes which have the swivel snap fitted so as to accommodate the 587½ plumb bob are known as outage tapes. When the 587½ plumb bob is assembled to the tape line the zero point is at the intersection of the swivel snap and the plumb bob. When using outage gaging tapes the tape is lowered into the tank until the plumb bob just penetrates the liquid. The tape is then retracted and the liquid level is read right off the plumb bob. The reading on the plumb bob is added to the tape reading, giving the total outage (how much liquid has been removed from the tank).

## Tape wipers



The 599 tape wiper is designed primarily to remove oil from gaging tapes as they are reeled in. This helps keep the line in top condition. Tension on the wiping pads is regulated by a thumb screw. Increasing the tension holds the line at any desired point. Pads are replaceable and each unit is furnished with 6 extra pads.

The diagram shows the three parts of the wiper. From left to right: tape wiper bracket and spring plate, both on the handle side of the tape; tape wiper clip on the winding drum side of the tape.

1. Place clip over line, with lip extending downward.
2. Pass wiper bracket up through the clip, with thumb screw at the bottom.
3. Insert spring plate downward between bracket and tape line, with pad facing line. Attach wiper to reel by screwing wood handle through wiper into reel.

Cat. No.	N/S No.	Description
599	45329	Wipers
Pad 599	45330	Pads

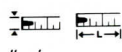


## Fiberglass tapes

### Linear fiberglass tapes



Durable tape made of 13mm/½" wide fiberglass linear tapes encapsulated in flexible plastic. Designed to resist stretch and extreme weather conditions. Non-conductive material with easy-to-read black and red markings on yellow background. Cases and reels manufactured from lightweight high impact polystyrene with winding drum to provide smooth tape recovery.


Cat. No.	N/S No.	 " x '	Blade Style	Shelf Pack	Pack Wt. lb/g	Repl. Blade No.	N/S No.
703	45352	½" x 50'	E1	2	1.0/.45	0703	45353
706	45356	½" x 100'	E1	2	1.50/.68	0706	45357
703D	45354	½" x 50'	E2	2	1.0/.45	0703D	45355
706D	45358	½" x 100'	E2	2	1.50/.68	0706D	45359

For blade styles, see below.

### Linear fiberglass reel tapes



Lightweight open reel is easy to handle and rewind, and line does not collect dirt in a case.

Cat. No.	N/S No.	 " x '	Blade Style	Shelf Pack	Pack Wt. lb/kg	Repl. Blade No.	N/S No.
1703	45462	½" x 50'	E1	6	0.75/.34	0703	45353
1703D	45463	½" x 50'	E2	6	2.00/.90	0703D	45355
1706	45464	½" x 100'	E1	6	1.25/.56	0706	45357
1706D	45465	½" x 100'	E2	6	2.25/1.02	0706D	45359
1707	45466	½" x 150'	E1	2	2.25/1.02	01707	45467
1707D	45468	½" x 150'	E2	2	2.75/1.24	01707D	45469
HY1715CM	45819	13mm x 15m	E3	6	0.75/.34	RHY1715CM	45822
HY1715CME	45825	½"/13mm x 50'/15m	E3A	6	0.75/.34	RHY1715CME	45828
HY1720CM	45937	13mm x 20m	E3	6	1.19/.54	RHY1720CM	45938
HY1720CME	45846	½"/13mm x 60'/20m	E3A	6	1.19/.54	RHY1720CME	45847
HY1730CM	45820	13mm x 30m	E3	6	1.25/.56	RHY1730CM	45823
HY1730CME	45826	½"/13mm x 100'/30m	E3A	6	1.25/.56	RHY1730CME	45829
HY1750CM	45821	13mm x 50m	E3	2	2.25/1.02	RHY1750CM	45824
HY1750CME	45827	½"/13mm x 164'/50m	E3A	2	2.25/1.02	RHY1750CME	45830
Y1715CM	45909	13mm x 15m	E3	6	0.75/.34	RY1715CM	45924
Y1715CME	45913	½"/13mm x 50'/15m	E3A	6	0.75/.34	RY1715CME	45928
Y1720CM	45910	13mm x 20m	E3	6	1.19/.54	RY1720CM	45925
Y1720CME	45914	½"/13mm x 60'/20m	E3A	6	1.19/.54	RY1720CME	45929
Y1730CM	45911	13mm x 30m	E3	6	1.25/.56	RY1730CM	45926
Y1730CME	45915	½"/13mm x 100'/30m	E3A	6	1.25/.56	RY1730CME	45930
Y1750CM	45912	13mm x 50m	E3	2	2.25/1.02	RY1750CM	45927
Y1750CME	45916	½"/13mm x 164'/50m	E3A	2	2.25/1.02	RY1750CME	45931

For blade styles, see below and page 24.

## Fiberglass tapes—blade styles E1—E3A

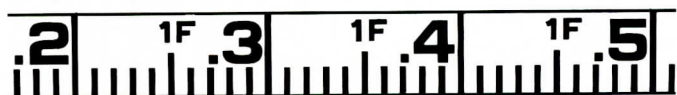
### E1 yellow clad



½" width only.

Black and red markings on one side only. Graduated feet and inches to ¼ths. Numbered with feet and instantaneous feet markings in red and inches in black.

### E2 yellow clad



½" width only.

Black and red markings on one side only. Graduated feet to ⅓ths and ⅕ths. Numbered with feet in red and ⅓ths of feet in black.

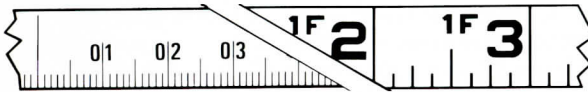
## E3 yellow clad



13mm wide width only.

Black and red markings on one side only. Graduated millimeters, numbered at each centimeter with red instantaneous meter number.

## E3A yellow clad



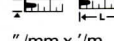
1/2" / 13mm width only.

Black and red markings on both sides. One side graduated in millimeters, numbered centimeters with red instantaneous meter number; other side in feet, inches, and 1/16ths, numbered at each inch with red instantaneous foot number.

## Hi Line woven tapes



Non-metallic .625" / 16mm wide Dacron tape for heavy duty use where non-conductivity and resistance to breakage are important, and where steel line accuracy is not required. Large easy-to-read black and red markings on white background. Steel case has extra heavy brown vinyl covering. All parts plated for corrosion resistance. Metal drum is electroplated. Nylon friction washers for smooth winding action. The 404L is graduated in links.

Cat. No.	N/S No.	 " / mm x ' / m	Blade Style	Pack Wt. lb/kg	Shelf Pack	Repl. Blade No.	N/S No.
403	45242	5/8" x 50'	E4	1.0/.45	1	O403	45243
406	45254	5/8" x 100'	E4	1.5/.68	1	O406	45255
H403	45247	5/8" x 50'	E4	1.0/.45	1	OH403	45248
H406	45259	5/8" x 100'	E4	1.5/.68	1	OH406	45260
404L	45252	5/8" x 100L	E8	1.0/.45	1	O404L	45253
403D	45244	5/8" x 50'	E5	1.0/.45	1	O403D	45245
406D	45256	5/8" x 100'	E5	1.5/.68	1	O406D	45257
H403D	45249	5/8" x 50'	E5	1.0/.45	1	OH403D	45250
H406D	45261	5/8" x 100'	E5	1.5/.68	1	OH406D	45262
403ME	45246	5/8" / 16mm x 50' / 15m	E6	1.0/.45	1	O403ME	45707
406ME	45258	5/8" / 16mm x 100' / 30m	E6	1.8/.82	1	O406ME	45708

The following tapes are available for export only.

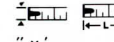
H403	—	5/8" x 50'	E4	—	1	RH403	—
H406	—	5/8" x 100'	E4	—	1	RH406	—
H403D	—	5/8" x 50'	E5	—	1	RH403D	—
H406D	—	5/8" x 100'	E5	—	1	RH406D	—
H1415M	—	5/8" / 16mm x 15m	E7	.88/.40	1	RH1415M	—
H1430M	—	5/8" / 16mm x 30m	E7	1.3/.59	1	RH1430M	—
H1450M	—	5/8" / 16mm x 50m	E7	—	1	RH1450M	—
H1415ME	—	5/8" / 16mm x 50' / 15m	E6	.88/.40	1	RH1415ME	—
H1430ME	—	5/8" / 16mm x 100' / 30m	E6	1.3/.59	1	RH1430ME	—
H1450ME	—	5/8" / 16mm x 150' / 50m	E6	—	1	RH1450ME	—

For blade styles, see below.

## 150 foot Hi Line



Same quality tape line as other Hi Line tapes shown except extra long 150' length. The disc reel is made of lightweight aluminum for easy handling.

Cat. No.	N/S No.	 " x '	Blade Style	Wt. each lb/kg	Repl. Blade No.	N/S No.	Shelf Pack
1407	45353	5/8" x 150'	E4	3/1.36	01407	45454	1
1407D	45355	5/8" x 150'	E4	3/1.36	01407D	45456	1

For blade styles, see below.

## Woven tapes—E4—E8 E4 white clad



5/8" and 7/8" widths.

Black and red markings on one side only. Graduated feet and inches to 1/8ths, red feet numbers and black inch numbers.



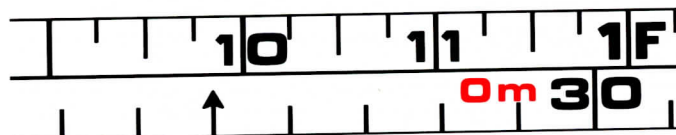
## E5 white clad



$\frac{5}{8}$ " and  $\frac{7}{8}$ " widths.

Black and red markings on one side only. Graduated feet to  $\frac{1}{10}$ ths and  $\frac{1}{100}$ ths, red feet numbers and black tenths of feet numbers.

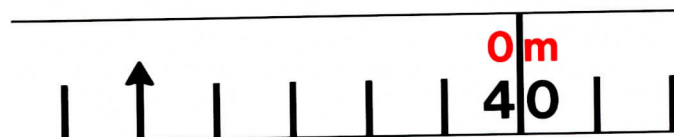
## E6 white clad



$\frac{5}{8}$ " / 16mm width only.

Black and red markings on one side only. Graduated meters to centimeters one edge, numbered at each decimeter with red meter number and black centimeter number. Other edge graduated feet and inches to quarters, red feet numbers and black inch numbers.

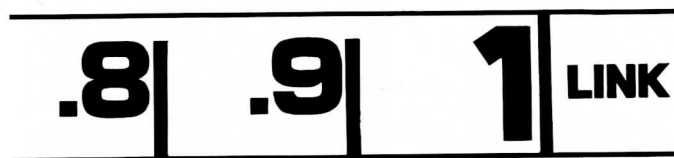
## E7 white clad



16m width only.

Black and red markings on one side only. Graduated meters to centimeters numbered at each decimeter with red meter number and black centimeter number.

## E8 white clad



$\frac{5}{8}$ " width only.

Graduated in links.

## Engineering and Surveying tapes

### Steel tape line accuracy

Lufkin steel tapes are made to government standards. Our bench standards for the United States are certified accurate by the United States Department of Commerce, National Bureau of Standards, Washington D.C. Tapes for Canada are made to Canadian government standards.

Temperature standard for steel tapes is 68°F, which equals 20°C. Coefficient of expansion of steel tapes is 0.00000645 per degree F; 0.0000116 per degree C. This amounts to 0.000645 foot or 0.00774 inch per degree F. on a 100-foot tape, and one-half as much on a 50-foot tape.

As a figure that is reasonably accurate and also easy to handle, it is customary on very long runs of pipe to allow  $\frac{1}{16}$  inch per 100 feet for each 10° change in temperature.



The above illustration shows, for a 100-foot tape, the actual length variations of temperature within the range of 20° below to 120° above zero F. The terminal graduation on the lower edge is at 68°, this being standard temperature. Furnished only when specified and at additional cost.

Standard tension for steel tapes 25 to 100 feet long (10 to 30 meters) supported entire length on a horizontal, flat surface, is 10 pounds (4.5 kilograms); for all tapes over 100 feet, 20 pounds. For steel tapes suspended horizontally and supported only at ends, there can be no set or standard tension for accuracy because of weight and other variations.

The following listings are averages of many tests made by the Bureau of Standards of Lufkin steel tapes supported throughout and supported ends only. These averages are taken from the experience of tests and should be used as a working basis only, and not to replace the test of any individual tape.

Width tape inches	Kind of tape	Tension of accuracy thru-out in lbs.	Supported ends only in lbs.
$\frac{1}{4}$	Chain Tapes	10	24
$\frac{1}{4}$	Engineer's (.012 inch) Tapes	10	18
$\frac{1}{4}$	Engineer's Extra Heavy Tapes	10	24
$\frac{3}{8}$ & $\frac{1}{2}$	Standard Weight Tapes	10	18

All tape lengths are 100 feet.

#### NOTE:

Temperature and tension need to be taken into account only on precise work. We recommend a government test of tapes to be used for such work or for use as master standard. The U.S. Bureau of Standards makes a moderate charge for this test.

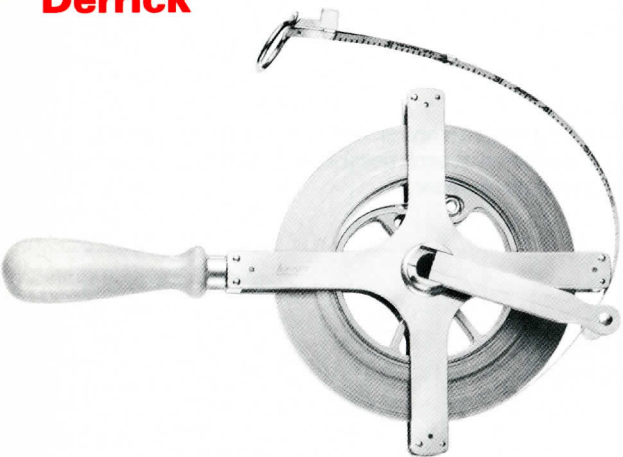
## Engineer's long tapes

Professional quality tapes designed for site layout and structural work. The .250"/6mm x .012" tapeline minimizes deflection in high winds. This, combined with easy-to-read markings bonded to the steel, recessed below the hard chrome surface and covered by abrasion resistant coating, provides a durable instrument for adverse site and weather conditions. Four arm reels of heavy gage electro-plated steel feature large winding drums and long winding handles which fold for storage and to provide a lock at any desired point.

A temperature correction scale is packaged with each tape or refill. Celsius and millimeter graduations for metric tape (C579M) or Fahrenheit and inch graduations in English tapes (579).

Note: See page 28 for details on reels.

## Derrick



Chrome clad. Fitted with a special hook ring with ribbed face at zero. Extra large winding drum provides rapid line recovery and permits tapeline to be easily detached from reel. A leather thong is provided to use through eye at rear end when tape is removed from reel.

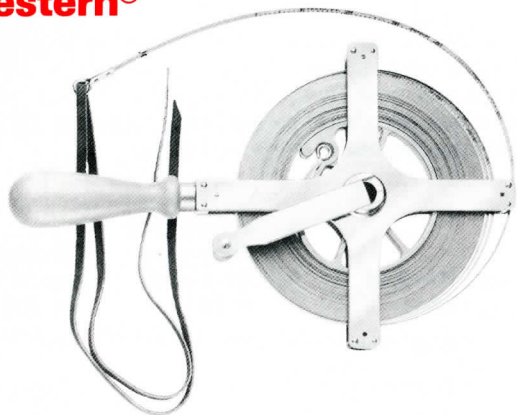
Cat. No.	N/S No.	" /mm x ' /m	Blade Style	Wt. each lb/kg	Repl. Blade No.	N/S No.	Repl. Reel
C2276D	45471	$\frac{1}{4}$ " x 100'	E9	3.25/1.47	OC2276D	45472	12-150
C2276ME	45473	$\frac{1}{4}$ " /6mm x 100'/30m	E10	3.25/1.47	OC2276ME	45474	12-150
C2276M	45746	6mm x 30m	E11	3.25/1.47	OC2276M	45752	12-150

The following tapes are available for export only.

C2276D	—	$\frac{1}{4}$ " x 100'	E9	3.25/1.47	RC2276D	—	—
CD2730MM	—	6mm x 30m	E13	—	RCD2730MM	—	—
CD2730DMM	—	6mm x 30m	E14	—	RCD2730DMM	—	—
CD2750MM	—	6mm x 50m	E13	—	RDC2750MM	—	—
CD2730MME	—	$\frac{1}{4}$ " /6mm x 150'/50m	E15	—	RCD2730MME	—	—

Please see pages 27 & 28 for blade styles.

## Western®

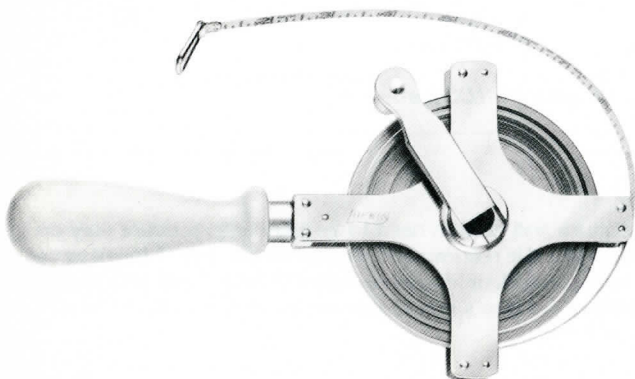


Chrome clad.  $\frac{1}{4}$ " /6mm wide and .015" thick line. Blank space at each end. Riveted, heavy plated brass end clips for holding thongs. Reel is nickel-plated, 4-arm with rollers in each arm for smooth winding. Oversize drum with long, one-piece winding handle for quick return of line. Turning handle over locks line at any desired position. A pair of 580T thongs and a 579 engineer's conversion rule are furnished with each tape or replacement line. To order reel only specify reel No. 12-150 for C1676D.

Cat. No.	N/S No.	" x '	Blade Style	Wt. each lb/kg	Repl. Blade No.	N/S No.	Repl. Reel
C1676D	45458	$\frac{1}{4}$ " x 100'	E9	2.75/1.24	OC1676D	45459	12-150

Please see page 27 for blade style.

## Chrome clad®



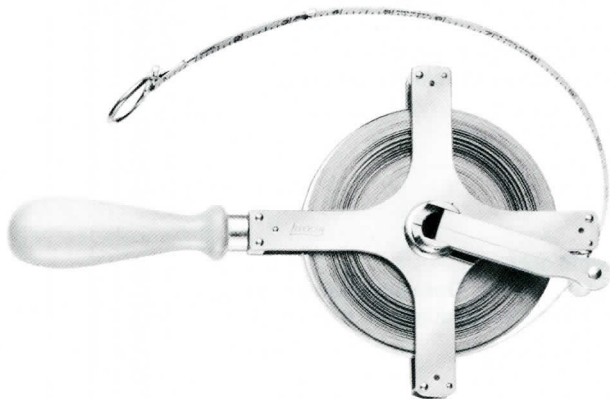
Chrome clad.  $\frac{3}{8}$ " /10mm wide and .008" thick. Instantaneous reading. Zero falls at outer end of ring. Reel is nickel-plated, 4-arm, with rollers in each arm for smooth winding. Long, easy-action winding handle that locks line in any position. Reel available separately.

Cat. No.	N/S No.	" x '	Blade Style	Wt. each lb/kg	Repl. Blade No.	N/S No.	Repl. Reel
C1286	45400	$\frac{3}{8}$ " x 100'	E12	2.5/1.1	OC1286	45401	81-100
C1288	45404	$\frac{3}{8}$ " x 200'	E12	4.0/1.80	OC1288	45405	81-200
C1286D	45402	$\frac{3}{8}$ " x 100'	E9	2.25/1.02	OC1286D	45403	81-200

Please see pages 27 & 28 for blade styles.

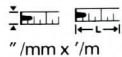


# Peerless



Chrome and yellow clad.  $\frac{1}{4}$ " /6mm wide and .012" thick line. Designed for engineers and surveyors who prefer a 4-arm reel. Line is subdivided throughout and is easily removed from the reel. Reel is nickel-plated, 4-arm, with rollers in each arm for smooth winding. Open design construction aids in drying line and clearing out dirt. Long, easy action winding handle locks line in any position. A pair of 580 finger rings and a 579 engineer's conversion rule are furnished with each tape complete or replacement line.

Reels also available separately.

Cat. No.	N/S No.	 Blade Style	Wt. lb/kg	Repl. Blade No.	N/S No.	Repl. Reel
C1276	45382	$\frac{1}{4}$ " x 100'	E12 2.75/1.24	OC1276	45383	11-100
C1278	45386	$\frac{1}{4}$ " x 200'	E12 4.25/1.93	OC1278	45387	11-200
C1279	45750	$\frac{1}{4}$ " x 300'	E12 6.00/2.72	OC1279	45751	11-300
C1276D	45384	$\frac{1}{4}$ " x 100'	E9 2.75/1.24	OC1276D	45385	11-100
C1278D	45388	$\frac{1}{4}$ " x 200'	E9 4.25/1.93	OC1278D	45389	11-200
C1279D	45773	$\frac{1}{4}$ " x 300'	E9 6.00/2.72	OC1279D	45774	11-300
Y1276	45779	$\frac{1}{4}$ " x 100'	E12 2.75/1.24	RY1276	45781	11-100
Y1278	45783	$\frac{1}{4}$ " x 200'	E12 4.25/1.93	RY1278	45785	11-200
Y1279	45787	$\frac{1}{4}$ " x 300'	E12 6.00/2.72	RY1279	45789	11-300
Y1276D	45780	$\frac{1}{4}$ " x 100'	E9 2.75/1.24	RY1276D	45782	11-100
Y1278D	45784	$\frac{1}{4}$ " x 200'	E9 4.25/1.99	RY1278D	45786	11-200
Y1279D	45788	$\frac{1}{4}$ " x 300'	E9 6.00/2.72	RY1279D	45790	11-300

The following tapes are available for export only.

C1276	—	$\frac{1}{4}$ " x 100'	E12 2.75/1.24	RC1276	—	11-100
C1278	—	$\frac{1}{4}$ " x 200'	E12 4.25/1.93	RC1278	—	11-200
C1276D	—	$\frac{1}{4}$ " x 100'	E9 2.75/1.24	RC1276D	—	11-100
C1278D	—	$\frac{1}{4}$ " x 200'	E9 4.25/1.93	RC1278D	—	11-200
C2730MM	—	6mm x 30m	E13 2.44/1.11	RC2730MM	—	11-100
C2750MM	—	6mm x 50m	E13 3.10/1.41	RC2750MM	—	11-200
C2730MME	—	$\frac{1}{4}$ " /6mm x 100'/30m	E15 2.38/1.08	RC2730MME	—	11-100
C2750MME	—	$\frac{1}{4}$ " /6mm x 164'/50m	E15 —	RC2750MME	—	11-200

For blade styles, see below and page 28.

## Engineer's long tapes: blade styles E9 to E15

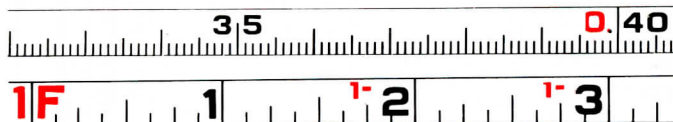
### E9 chrome clad and yellow clad



$\frac{1}{4}$ " and  $\frac{3}{8}$ " widths.

Markings on one side only. Graduated to feet,  $\frac{1}{10}$ ths and  $\frac{1}{100}$ ths with a blank space at each end.

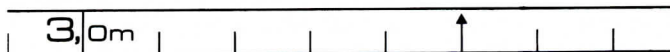
### E10 chrome clad



$\frac{1}{4}$ " /6mm width only.

Markings on both sides. One side graduated in millimeters; other side in feet, inches and  $\frac{1}{8}$ ths.

### E11 chrome clad



6mm width only.

Markings on one side only. Graduated in millimeters.

### E12 chrome clad and yellow clad



$\frac{1}{4}$ " and  $\frac{3}{8}$ " widths.

Black and red markings one side only. Graduated feet and inches to  $\frac{1}{8}$ ths with instantaneous readings. 16 inch centers are indicated by diamond symbol.

## E13 chrome clad



6mm width only.

Markings on one side only. Graduated meters to millimeters. Red meter numbers and black millimeter numbers at each decimeter.

## E14 chrome clad



$\frac{1}{4}$ " / 6mm width only.

Markings on both sides. One side graduated meters to millimeters. Red meter numbers and black millimeter numbers at each decimeter; other side graduated in feet to  $\frac{1}{10}$ ths and  $\frac{1}{100}$ ths numbered feet and tenths black markings only.

## E15 chrome clad



$\frac{1}{4}$ " / 6mm width only.



Markings on both sides. One side graduated in meters to millimeters; other side graduated in feet and inches to  $\frac{1}{10}$ ths.

## Replacement reels for gaging and engineer's tapes



For lengths up to 300'/100m.

4-arm reel, with rollers in each arm for smooth winding.

Cat. No.	N/S No.	  "/mm x '/m
81-50	45090	$\frac{3}{8}$ " / 9 $\frac{1}{2}$ mm x 50'/15m
81-100	45091	$\frac{3}{8}$ " / 9 $\frac{1}{2}$ mm x 100'/30m
81-200	45092	$\frac{3}{8}$ " / 9 $\frac{1}{2}$ mm x 205/60m
91-25	45095	$\frac{1}{2}$ " / 12mm x 25'/7 $\frac{1}{2}$ m
91-50	45096	$\frac{1}{2}$ " / 12mm x 50'/15m
91-75	45097	$\frac{1}{2}$ " / 12mm x 75'/22 $\frac{1}{2}$ m
12-150	45033	$\frac{1}{4}$ " / 6mm x 150'/50m
12-200	45034	$\frac{1}{4}$ " / 6mm x 200'/60m
11-100	45027	$\frac{1}{4}$ " / 6mm x 100'/30m
11-200	45028	$\frac{1}{4}$ " / 6mm x 200'/60m
11-300	45029	$\frac{1}{4}$ " / 6mm x 300'/100m



## Engineering and Surveying tapes

### Tapes without reels

Designed especially for engineering, surveying and other precise measuring such as route surveys, highways and railways, mining and survey work.

Heavy gage thick steel is used on all Lufkin chain tapes with markings raised against a hard chrome or black background and further protected by an abrasion resistant coating to provide longer life under the most adverse conditions. Each tape and refill is fitted with heavy gage end clips at each end for attachment to reel or tensioning devices and is supplied with 2 leather thongs and a temperature correction scale (Celsius for metric tapes, Fahrenheit for English tapes).


Reels: a choice of reels is available for each style tape. For complete descriptions of reels, see pages 31 and 32.

Please order reels separately.

### Peerless

Yellow clad.  $\frac{1}{4}$ " / 6mm wide and .015" / 0.12 thick.  
Blade graduated in feet,  $\frac{1}{10}$ ths and  $\frac{1}{100}$ ths feet.



Cat. No.	N/S No.	 " x "	Line Wt. lb/kg	Reqd. Reel
RY1676D	45791	$\frac{1}{4}$ " x 100'	1.17/0.53	31-100
RY1678D	45792	$\frac{1}{4}$ " x 200'	1.79/0.81	31-200
RY1679D	45793	$\frac{1}{4}$ " x 300'	3.32/1.50	31-300

### Super Hi-Way chrome clad



OC9100




OC9100B, OC9200B, OC9300B




.025" thick. Easy-to-read graduations are satin chrome against a black background. Railroad half-gage mark 2', 4 $\frac{1}{2}$ " from zero. The OC9100 line has a blank space at each end. First and last foot of each 100' length graduated to 10ths and 100ths of feet; the balance is graduated every foot. The OC9100B, OC9200B and OC9300B have a blank space at each end and an extra foot before zero, graduated to 10ths and 100ths of feet. Left hand balance of the line is marked every foot except that last foot of each 100' length is graduated to  $\frac{1}{100}$ ths of feet.

The OC9100M, OC9164M and OC9328M have a blank space at each end of line. Graduated at each 10th meter (dm) throughout with extra 10th meter before zero graduated right to left to millimeters.

Cat. No.	N/S No.	 "/mm x ' /m	Line Weight lb/kg	Reqd. Reel
OC9100B	45543	$\frac{5}{16}$ " x 100'	2 $\frac{1}{4}$ / 1.02	31-130
OC9200B	45547	$\frac{5}{16}$ " x 200'	4 / 1.80	61-200 or 31-200
OC9300B	45561	$\frac{5}{16}$ " x 300'	6 / 2.72	61-300 or 31-300
OC9100	45544	$\frac{5}{16}$ " x 100'	2 $\frac{1}{4}$ / 1.02	31-100
OC9100M	45743	8mm x 30m	2 $\frac{1}{4}$ / 1.02	31-100
OC9164M	45777	8mm x 50m	3 $\frac{3}{4}$ / 1.70	31-200
OC9328M	45778	8mm x 100m	6 $\frac{1}{4}$ / 2.83	31-300

The following engineering tapes complete with reel are available for export.

Cat. No.	N/S No.	 "/mm x ' /m	Repl. Reel	Pack lb/kg	Shelf Pack	Repl. Blade No.	N/S No.
C5030MB	—	8mm x 30m	31-100	2.8/1.27	1	RC5030MB	—
C5050MB	—	8mm x 50m	31-200	5.7/2.59	1	RC5050MB	—
C50100MB	—	8mm x 100m	31-300	8.75/3.94	1	RC50100MB	—
C9030MB	—	8mm x 30m	31-100	3.55/1.61	1	RC9030MB	—
C9050MB	—	8mm x 50m	31-200	6.5/2.94	1	RC9050MB	—
C90100MB	—	8mm x 100m	31-300	1.04/4.69	1	RC90100MB	—
C9100	—	$\frac{5}{16}$ " x 100'	31-100	3.55/1.61	1	RC9100	—
C9100B	—	$\frac{5}{16}$ " x 100'	31-100	3.55/1.61	1	RC9100B	—
C9200B	—	$\frac{5}{16}$ " x 200'	31-200	7.3/3.30	1	RC9200B	—
C9300B	—	$\frac{5}{16}$ " x 300'	31-300	9.8/4.42	1	RC9300B	—

## Super Hi-way nubian



O9100



O9100A



O9100B, O9200B, O9300B



.025" thick, special analysis steel. Railroad half-gage mark is 2' 4½" from zero end.

The O9100 line has a blank space at each end. The first and last foot of each 100' length is graduated to 1/10ths and 1/100ths of feet; the balance is graduated every foot.

The O9100A line begins and ends measurement at extreme outer ends of clips; first and last foot of each 100' length is graduated to 1/10ths and 1/100ths of feet. Balance is marked every foot.

The O9100B, O9200B and O9300B lines have a blank space at each end. Extra foot before zero is graduated right to left 1/10ths and 1/100ths. Balance is marked every foot except last foot of each 100' length, which is in 100ths of feet.

Cat. No.	N/S No.	" x ' "	Line Weight lb/kg	Reqd. Reel
O9100	45541	1/8" x 100'	2½/1.02	31-100
O9100A	45542	1/8" x 100'	2½/1.02	31-100
O9100B	45543	1/8" x 100'	2½/1.02	31-100
O9200B	45546	1/8" x 200'	4/1.80	31-200 or 61-200
O9300B	45559	1/8" x 300'	6/2.72	31-300 or 61-300

## Pioneer chrome clad



OC5100B, OC5200B, OC5300B, OC5500B



Lightweight and easy to handle. ¼"/6mm wide and .020" thick. Catenary problems are minimized.

This line has blank space at each end and an extra foot before zero graduated right to left to 1/10ths and 1/100ths of feet. Balance graduated every foot except last foot of each 100' length is in 1/100ths.

Railroad half-gage mark 2' 4½" from zero end.

Cat. No.	N/S No.	" x ' "	Line Weight lb/kg	Reqd. Reel
OC5100B	45490	1/4" x 100'	1½/.68	31-100
OC5200B	45494	1/4" x 200'	3/1.36	31-200 or 61-200
OC5300B	45496	1/4" x 300'	4½/2.04	31-300 or 61-300

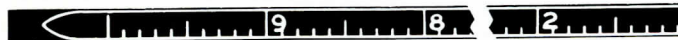
## Pioneer nubian



O5500-30G



O5066A



O5100B, O5200B, O5300B, O5500B



O5500-30G—first 30 feet graduated in feet, 1/10ths and 1/100ths of feet, instantaneous reading. O5066A is graduated in links and poles (rods) with end links in 1/10ths of link.

O5100B, O5200B, O5300B and O5500B lines have blank space at each end and an extra foot before zero graduated right to left to 1/10ths and 1/100ths of feet. Balance graduated every foot except last foot of each 100' length is in 1/100ths. Railroad half-gage mark 2' 4½" from zero end.

O5100M has metric graduations. The first and last decimeters are graduated in millimeters. The balance of the first and last meter is graduated in centimeters with the balance of the line graduated in decimeters. Available in 30, 50 and 100 metric lengths.

Cat. No.	N/S No.	" /mm x ' /m	Line Weight lb/kg	Reqd. Reel
O5500-30G	45499	1/4" x 500'	7/3.17	61-500
O5066A	45485	1/4" x 100' links	1½/.57	31-100
O5100B	45488	1/4" x 100'	1½/.68	31-100
O5200B	45493	1/4" x 200'	3/1.36	31-200 or 61-200
O5300B	45495	1/4" x 300'	4½/2.04	31-350 or 61-300
O5500B	45498	1/4" x 500'	7/3.17	51-500
O5100M	45489	6mm x 30m	1½/.68	31-100



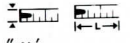
## Topographic trailer



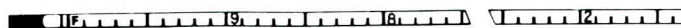
Lightweight, strong and accurate — the perfect tape for engineers and mappers for slope correction work.

Use topographic level to determine slope. Measure two chains on the slope and as many graduations on the trailer as the arc reading shows. This distance on the slope represents two chains of horizontal distance. Use the back of the tape to determine one chain horizontal distance.

The line is  $\frac{1}{4}$ " / 6mm wide and .020" thick. Permanent black markings are etched into the raised bright steel portion of the line. Line is  $2\frac{1}{2}$  chains (2 chains plus trailer) or 165 feet long. It is easily attached to the reel.

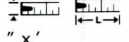
Cat. No.	N/S No.	 " x '	Line Weight lb/kg	Reqd. Reel
05165T	45492	$\frac{1}{4}$ " x 250 links $2\frac{1}{2}$ chains or 165'	$2\frac{3}{4}$ /1.25	61-200

## Canyon



This lightweight, rugged tape,  $\frac{1}{8}$ " / 3mm wide and .025" thick, is extremely useful when minimum weight and wind resistance are important factors. Widely used in spanning bridges, valleys or canyons. Permanent black markings are etched into raised bright steel portion of line. Plated end clips are reinforced. Line attached easily to reel.

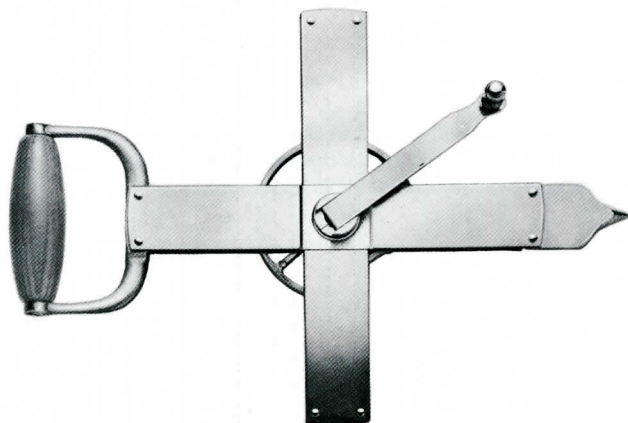
This line has blank space at each end and an extra foot before zero graduated right to left to  $\frac{1}{100}$ ths and  $\frac{1}{100}$ ths. Balance is marked every foot except last foot of each 100' length is graduated to  $\frac{1}{100}$ ths of feet.

Cat. No.	N/S No.	 " x '	Line Weight lb/kg	Reqd. Reel
04300B	45483	$\frac{1}{8}$ " x 300'	$3\frac{1}{2}$ /1.59	41-300

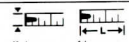
## Reels for chain tapes

All reels are made of high quality nickel-plating and are fitted with an iridescent red hardwood handle. Open design construction aids in drying line and clearing out dirt. Long, easy-action winding handle locks line at any point.

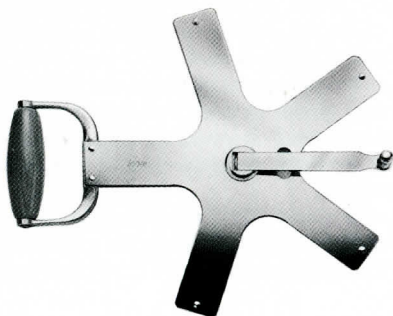
## 31 and 51 series reels




For tapes up to 500' / 150m in length. 4-arm nickel-plated reel and spike end. Large drum for faster, easier rewinding. Tape easily attached to reel.

Cat. No.	N/S No.	 " / mm x ' / m	Wt. each lb/kg	Shelf Pack
31-200	45053	$\frac{5}{16}$ " / 8mm x 200' / 60m	3.3 / 1.5	1
31-300	45054	$\frac{5}{16}$ " / 8mm x 300' / 100m	3.8 / 1.7	1
31-500	45055	$\frac{5}{16}$ " / 8mm x 500' / 150m	4.79 / 2.17	1
51-300	45072	$\frac{1}{4}$ " / 6mm x 300' / 100m	3.07 / 1.39	1

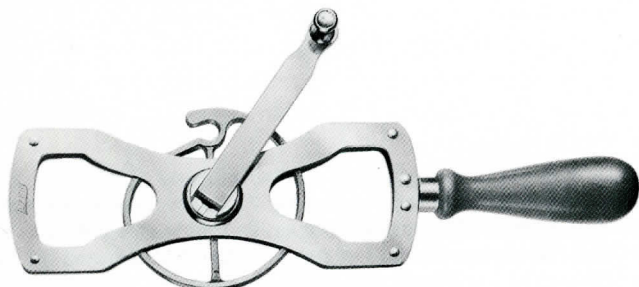
## 41 and 61 series reels



For tapes up to 500'/150m in length. Designed specifically for long, narrow tapes. Tapes easily attached to reel.

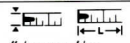
Cat. No.	N/S No.	 " /mm x ' /m	lb/kg	Shelf Pack
41-300	45060	$\frac{1}{8}$ " /3mm x 300'/100m	3.09/1.40	1
61-200	45075	$\frac{1}{4}$ " /6mm x $\frac{5}{8}$ " /8mm x 200'/60m	2.87/1.30	1
61-300	45076	$\frac{1}{4}$ " /6mm x $\frac{5}{8}$ " /8mm x 300'/100m	—	1
61-500	45077	$\frac{5}{8}$ " /8mm x $\frac{1}{4}$ " /6mm x 500'/150m	5.02/2.28	1

## 31 – 100 reels



For 100'/30m lengths only.

2-arm, nickel-plated reel. Tapes easily attached to reel.

Cat. No.	N/S No.	 " /mm x ' /m	Wt. each lb/kg	Shelf Pack
31-100	45051	$\frac{5}{8}$ " to $\frac{1}{4}$ " /8mm to 6mm x 100'/30m	1.3/.59	1

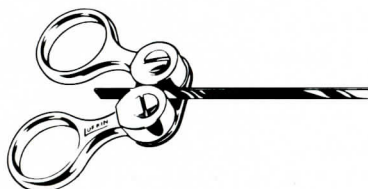
## Short and long tape accessories

### Detachable hooks 552 (45283)



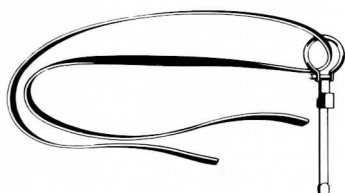
This hook, easily attached or removed from standard ring tape line, lets one man take measurements unassisted. Hook is brass, heavily nickel-plated. Serrated face grips firmly and releases easily. On tapes measuring from outer end of ring, zero falls at inside of hook. Popular for use on Anchor and Leader chrome clad tapes, and Banner and Royal Ni-Clad metric tapes. 552—for lines  $\frac{3}{8}$ " / 10mm wide.

### Tape clamp handle 584 (45314)



Used for quickly and positively gripping a steel tape at any point, and applying light or heavy tension. It is applied and removed by simply operating the handle. When used properly, it will not damage a tape in any way. Made of chrome-plated zinc alloy.

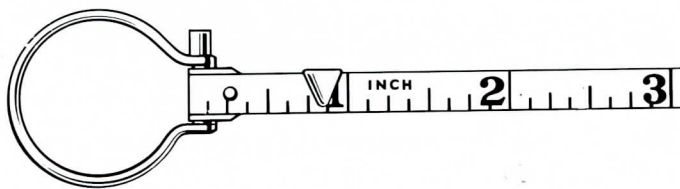
### Leather thongs 580T (45310)



Same as furnished with all Lufkin chain tapes and certain types of our other tapes. 36" /914mm long and  $\frac{1}{4}$ " /6mm wide. Chrome tanned and practically unbreakable. Sold in pairs.



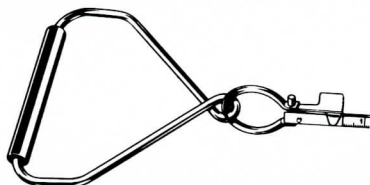
## Engineer's tape ring 580 (45306)



This ring, for  $\frac{1}{4}$ " / 6mm wide tapes only, is furnished in pairs with Wolverine engineer's and surveyor's tapes and Peerless chrome clad and Peerless nubian chain tapes.

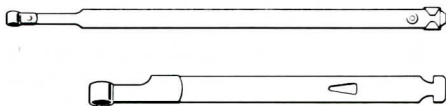
This sturdy, nickel-plated steel, round finger ring is  $1\frac{1}{8}$ " / 128mm in diameter. It swings on a hinge pin. Riveted to its lip is a steel supporting strip  $3\frac{1}{2}$ " / 89mm long. Ring is attached by sliding tape through ring guide lips and over pin or stud. It is also easy to detach last end ring when returning tape to reel. Ring does not interfere with reading of graduations. Zero point falls at the end of the line, as illustrated.

## Triangular tape handle 580E (45307)



This solid brass handle provides a comfortable grip for measuring with chain tapes. It is easily attached and removed from tape and clip. Can be used on  $\frac{1}{4}$ " / 6mm and  $\frac{3}{8}$ " / 8mm wide steel tapes.

## Tape fingers 580F (45308) & 580H (45309)

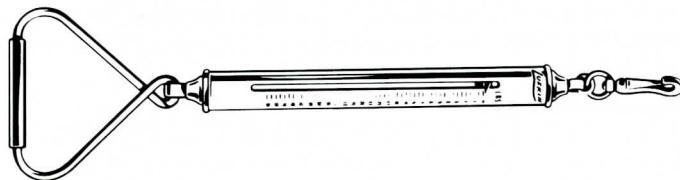


A tape finger is the bright metal connecting strip between drum assembly and steel tape line. Loop end of the finger engages a post on the drum; other end extends out of the case and attaches to the line.

580F –  $\frac{1}{4}$ " / 6mm wide, 7" / 178mm long. For C1276, C1278, 1279X, C1376D

580H –  $\frac{3}{8}$ " / 10mm wide, 5 $\frac{3}{4}$ " / 146mm long. For attaching  $\frac{3}{8}$ " / 10mm wide steel tapes to cases. For C1286, C1288.

## Tape tension handles 586 (45315), 586D (45316)

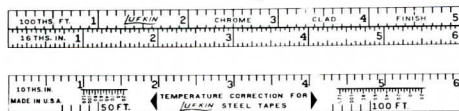


For extremely accurate measurements, steel tapes should be used under proper tensions (see page 25). The tension handle is attached to one end of the tape and the proper tension is applied when the measurement is taken. When measuring with an unsupported line, tension handle should be used to counteract the effect of sag. Rustproof brass construction with black-filled etched graduations. Graduations begin at snap end and are easy to read when tension is applied.

586 – Capacity of 30 lbs. by  $\frac{1}{2}$  lbs. and 25 kg by .25 kg.

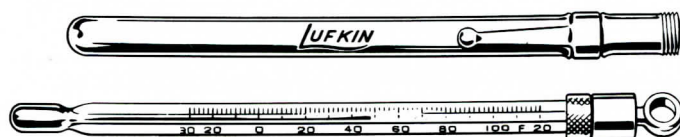
586D – Capacity of 50 lbs. by  $\frac{1}{2}$  lbs. and 30 kg by .25 kg.

## Engineer's conversion rule 579 (45305)



This 6" / 152mm conversion wood rule is included with all Lufkin engineer's and surveyor's tapes and chain tapes. It may also be purchased separately. Convenient, handy pocket size. Graduated one side lower edge inches to  $\frac{1}{16}$ ths of an inch, and upper edge  $\frac{1}{16}$ ths and  $\frac{1}{32}$ ths of feet. Other side is graduated on upper edge inches and  $\frac{1}{16}$ ths of inches; lower edge graduated with temperature correction scale for Lufkin 50 and 100 foot steel tapes.

## Pocket thermometers



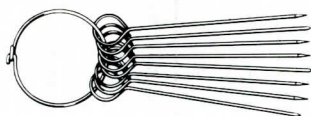
### Fahrenheit thermometer 583 (45313)

A high-quality thermometer furnished in a metal carrying case. An essential tool when measuring to extreme accuracy. Temperature range is from  $-30^{\circ}\text{F}$  to  $+120^{\circ}\text{F}$ , graduated in  $2^{\circ}$  increments. It is  $5\frac{1}{2}$ " / 140mm long and has pocket clip.

### Celsius thermometer 583C (45681)

Temperature range is from  $-40^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  graduated in  $1^{\circ}$  increments.

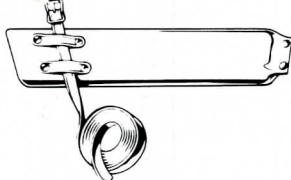
Surveyor's steel arrows 593-14 (45325)



Lufkin surveyor's arrows are made of  $\frac{3}{16}$ " / 4.76 mm hardened round steel. 14" / 356mm long. Furnished in sets of 11, the number required for each 1,000 feet when chaining with a 100-foot tape. Large eye for easier handling.

593 – Enameled alternately red and white, easy to locate in grass or brush.

Leather quiver 597 (45328)



Carrying quiver for 14-inch surveyors steel arrows is made of the best-quality sole leather. Designed and shaped for convenient carrying around the waist. Furnished with 48" leather belt.

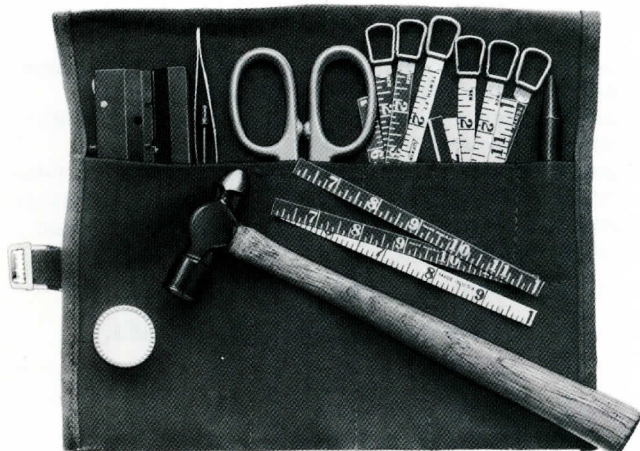
Carrying rings for surveyor's arrows 596 (45326) and 596A (45327)



596 – Made of  $\frac{3}{16}$ " / 4.76mm round steel, 6" / 152mm in diameter. White enameled finish.

596A – Made of  $\frac{3}{16}$ " / 4.76mm round steel, chrome finish. Flat end for carrying arrows.

576 (45285) Tape repair kit



A sturdy, practical kit for splicing steel tapes of all kinds, widths and weights. Can be used to repair tape lines in the field. The steel punch block,  $2\frac{1}{8}$ " / 54mm high, sits firmly on a  $\frac{7}{8}$ " / 22mm x  $2\frac{3}{4}$ " / 70mm base. The piercing punch has head for striking with hammer. Tap of hammer on fulcrum lever raises the punch. Face of block is notched and has tape slot and three sighting lines to simplify accurate locating of holes. The back has hardened, flush, inset riveting block. Piercing punch is readily removed and one extra punch is furnished. Packed in compact case, kit weighs 3 lbs. Folds and is held by the strap to size of 9" / 225mm x  $3\frac{1}{2}$ " / 89mm x  $1\frac{1}{2}$ " / 38mm.

Instructions for use

Punch only one piece at a time. For matching to locating lines on punch block (when punching holes), always use same graduation on the tape to be repaired and the repair piece of tape. Follow closely further instructions given on the sheet packed with each kit.

576 and 576A tape repair kit contains these items in a compact carrying case

Punch and riveting block with piercing punch; cutting snips; riveting hammer; steel tape repair pieces of various kinds, widths, weights and markings, including chrome clad, nubian (black), with and without rings; rivet set, tweezers, extra piercing punch; 1 lot of solid steel rivets in a box.

Separate parts of 576 repair kit

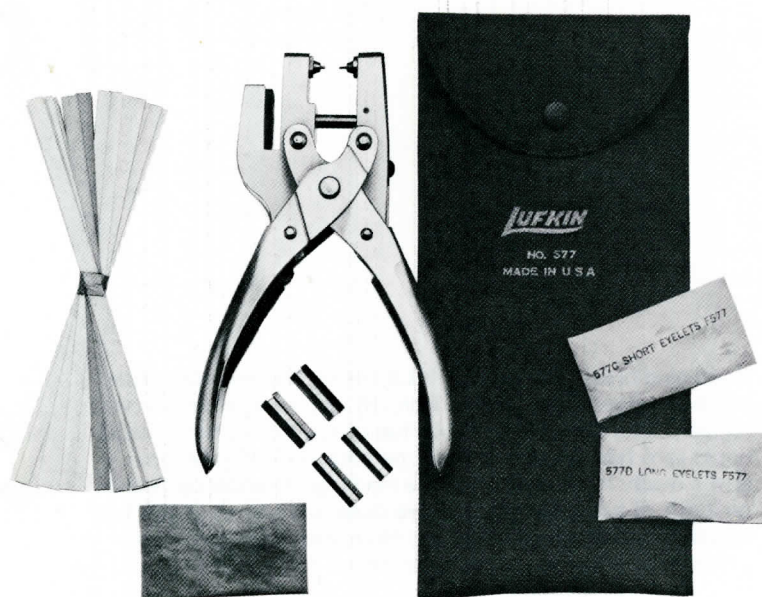
Qty.	Cat. No.	N/S No.	Description
1	—	—	Case (Duck)
1	576B	45287	Punch Block Complete (notched to show punch)
1	—	—	Hammer
1000	576D	45288	Rivets
1	576E	45289	Extra Punches
1	576F	45290	Rivet Set
1	—	—	Shears (Snips)
1	—	—	Tweezers
14	576G	45291	Tape Repair Pieces (Group 1)

Tape repair kit 576A (45286) to meet Mil-R-11567

Qty.	Cat. No.	N/S No.	Description
1	—	—	Case (Duck)
1	576B	45287	Punch Block Complete (notched to show punch)
1	—	—	Hammer
2	—	—	Extra Punches
1000	576D	45288	Rivets
1	576F	45290	Rivet Set
1	—	—	Shears (Snips)
1	—	—	Tweezers
31	—	—	Tape Repair Pieces (Group 11)
12	—	—	Eureka Sleeves (4 each $\frac{1}{4}$ " / 6mm — $\frac{5}{16}$ " / 8mm — $\frac{3}{8}$ " / 10mm)



## Tape repair kit 578 (45799)



With this combination hand punch and splicing tool, secure and accurate splices with eyelets can be made on the job quickly, saving valuable time. Each 578 kit includes four Eureka repair sleeves (described below) which are better for repairing the heavier types of  $\frac{1}{4}$ " / 6mm and  $\frac{5}{16}$ " / 8mm tapes. Leatherette case with snap fastener keeps all items intact. Convenient to carry, it measures 3" / 76mm x 9" / 229mm and weighs  $\frac{3}{4}$  lb. when packed.

578 kit contains these items, in leatherette case: punch and eyeleting tool; supply of long and short eyelets; assortment of ungraduated steel tape pieces; 4 Eureka repair sleeves (2 each of  $\frac{1}{4}$ " / 6mm and  $\frac{5}{16}$ " / 8mm).

### Separate parts of 578 repair kit

Cat. No.	N/S No.	Description
578A	45800	Hand punch and eyeleting tool complete
577B	45293	Punch
577C	45294	Eyelets only, 500 short
577D	45295	Eyelets only, 500 long
578B	45801	Piercing punch and plate
578C	45802	Female and male set dies

## Eureka tape repair sleeves



All that is needed to splice a steel tape quickly is one of these sleeves and a match.

To weld sleeve to tape: (1) clean tape ends; hammer them if there is any burr; (2) butt broken ends together inside sleeve, taping sleeve unit tight; (3) burn match underneath sleeve, holding tape until cool.

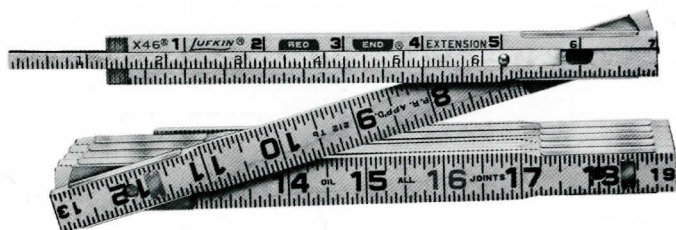
These thin, sheet metal sleeves are ready-coated with solder and flux. Twelve sleeves of one size are packed in a small, durable box with a piece of emery cloth. Directions in each box. Sleeves available as follows:

Cat. No.	N/S No.	Description
577K	45300	for $\frac{1}{8}$ " / 3mm tapes
577M	45301	for $\frac{1}{4}$ " / 6mm tapes
577P	45302	for $\frac{5}{16}$ " / 8mm tapes
577R	45303	for $\frac{3}{8}$ " / 10mm tapes
577T	45304	for $\frac{1}{2}$ " / 13mm tapes

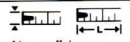
## Folding wood rules Red End® series

First choice of carpenters and other professional craftsmen. Boxwood finish wood section are 25% thicker than regular wood rules—will withstand hard daily usage. Bold red and black markings embedded in wood contrast sharply against white or natural finish background. Markings protected by clear abrasive resistant coating—will not chip, peel or discolor. Superior riveted lock joints are long wearing; brass plates are designed specifically to eliminate end play and retain accuracy. End caps and strike plates are solid brass to prevent wear.

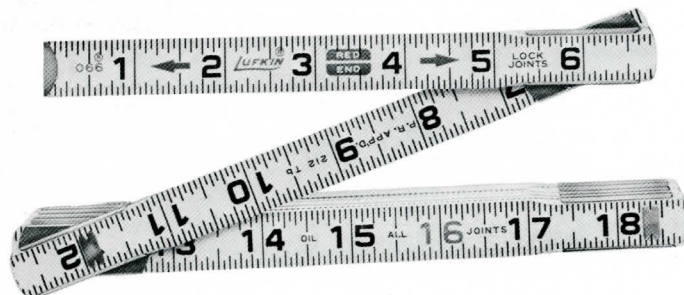
### Red End® extension



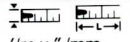
Graduated brass slide extends full 6 inches. Marked both sides and both edges to  $\frac{1}{16}$ ths of an inch, 16 inch stud centers in red, regular, outside markings. HX46 has sturdy folding brass plated hook; zero falls at inside of hook, permits measuring beyond arm's reach. X46F has flat, inside markings. Numbering begins on inside of rule; measurement lies close to the work. X46X has two 6-inch brass extension slides. No matter how the rule is unfolded an extension is ready for use on first section.

Cat. No.	N/S No.	 $\frac{1}{16}$ " $\frac{1}{16}$ mm	lb/kg	Shelf Pack
X46	45062	6' x $\frac{5}{8}$ "	2.27/1.03	6
HX46	45065	6' x $\frac{5}{8}$ "	2.30/1.04	6
X48	45066	8' x $\frac{5}{8}$ "	2.95/1.34	6
HX48	45067	8' x $\frac{5}{8}$ "	3.01/1.37	6
X46F	45063	6' x $\frac{5}{8}$ "	2.28/1.03	6
X46X	45064	6' x $\frac{5}{8}$ "	2.39/1.08	6

### Red End®

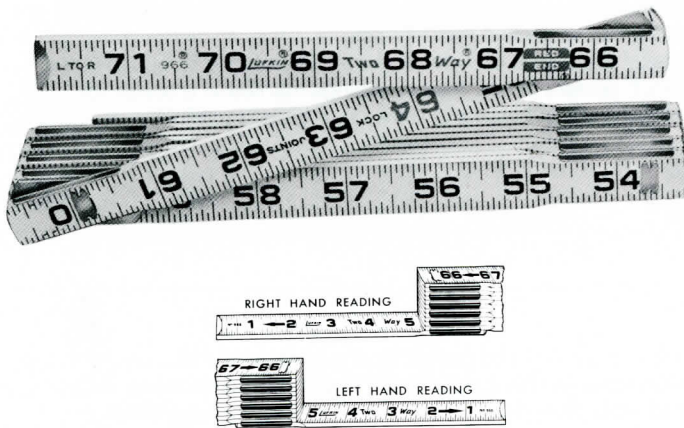


Marked both sides, both edges to  $\frac{1}{16}$ ths; 16 inch stud centers in red. Regular outside reading. Zero falls on inside of hook, permits measuring beyond arm's reach. O66F has inside markings. Numbering begins on inside of rule; measurement lies close to the work.

Cat. No.	N/S No.	 $\frac{1}{16}$ " $\frac{1}{16}$ mm	lb/kg	Shelf Pack
O66	45084	6' x $\frac{5}{8}$ "	1.68/0.76	6
O66F	45086	6' x $\frac{5}{8}$ "	1.64/0.74	6
O68	45088	8' x $\frac{5}{8}$ "	2.27/1.03	6
O68F	45089	8' x $\frac{5}{8}$ "	2.27/1.03	6




## Red End® – Two Way®



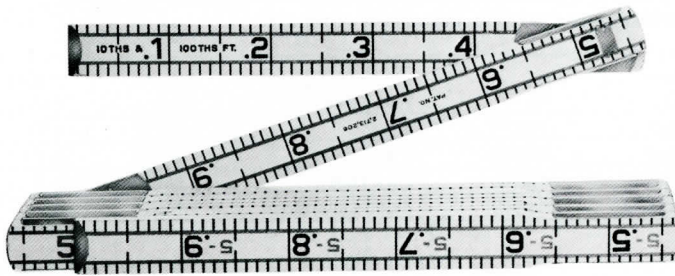
For measuring left to right and right to left. Flat, inside markings lie close to the work. 966 marked both sides, both edges in feet, inches and  $\frac{1}{8}$ ths.

966CM marked both sides, inside flat from left or right in millimeters, and numbered centimeters.

062CME marked both sides, outside graduated decimeters to millimeters, and numbered centimeters. Lower edge of lath and inside graduated consecutive inches to  $\frac{1}{8}$ ths on upper edge. 062CM graduated in millimeters, numbered centimeters.

Cat. No.	N/S No.	 'm x " /mm	Pack wt. lb/kg	Shelf Pack
966	45375	6' x $\frac{1}{8}$ "	1.7/.77	6
966CM	45844	2m x 16mm	1.7/.77	6
062CME	45840	6' / 2m x $\frac{1}{8}$ " / 16mm	1.7/.77	6
062CM	45839	2m x 16mm	1.7/.77	6

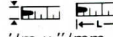
## Red End® engineer's



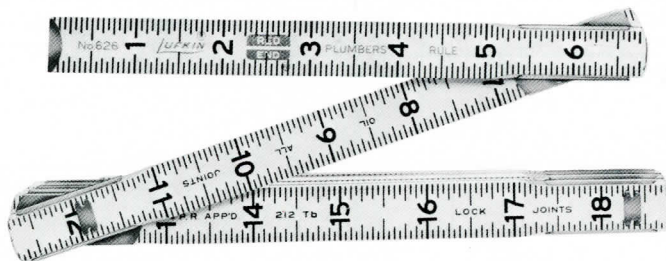
066D and 1066D graduated in feet,  $\frac{1}{10}$ ths and  $\frac{1}{100}$ ths feet. Regular outside markings in feet, inches and  $\frac{1}{8}$ ths. Red foot figures.

Decimal points on engineer's scale prevent reading errors.


062CMD graduated in millimeters, numbered centimeters one side, other side graduated decimal  $\frac{1}{10}$ ths of feet.

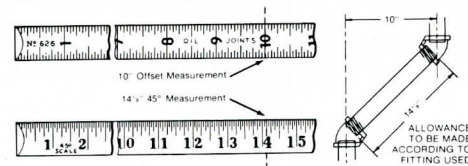
Cat. No.	N/S No.	 'm x " /mm	Pack Wt. lb/kg	Shelf Pack
062CMD	45841	6' / 2m x $\frac{1}{10}$ " / 16mm	1.7/.77	6
066D	45085	6' x $\frac{1}{10}$ " / 16mm	1.7/.77	6
1066D	45376	6' x $\frac{1}{10}$ " / 16mm	2.27/1.03	6
1066CMD	45845	6' / 2m x $\frac{1}{10}$ " / 16mm	2.27/1.03	6

## Red End® plumber's

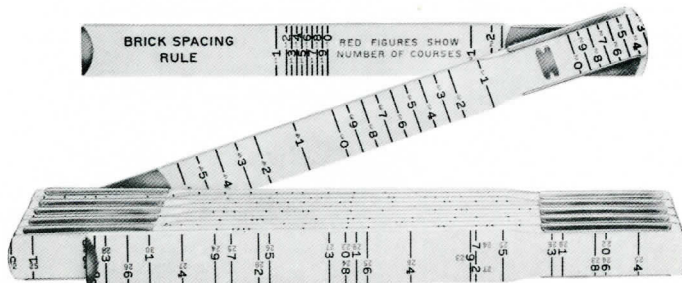


Regular outside markings in black, vertical, consecutive inches to  $\frac{1}{8}$ ths, both edges. Flat inside markings in red, 45° scale, inches to  $\frac{1}{8}$ ths upper edge only.

Cat. No.	N/S No.	 'm x " /mm	Pack Wt. lb/kg	Shelf Pack
626	45343	6' x $\frac{1}{8}$ "	1.7/.77	6




## Red End® brick mason's

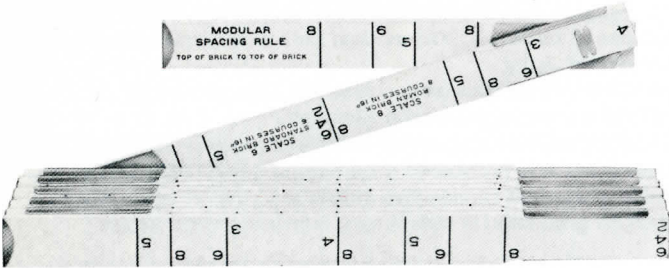


Used by bricklayers for spacing brick courses. Regular outside markings in black, vertical, consecutive inches to  $\frac{1}{8}$ ths, both edges.

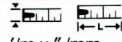
Brick mason's scale on inside – red course counters numbered consecutively.

Cat. No.	N/S No.	 'm x " /mm	Pack Wt. lb/kg	Shelf Pack
636	45344	6' x $\frac{1}{8}$ "	2.27/1.03	6

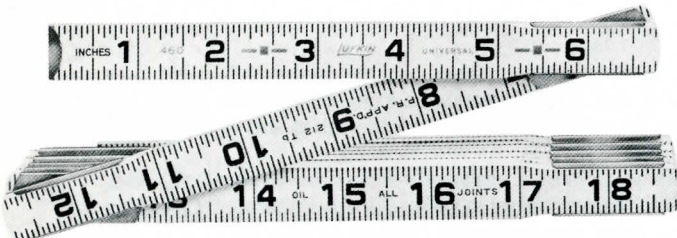
Red End® modular spacing



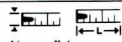
Designed for masonry work such as laying concrete and glass blocks, facing tile and special brick. Outside graduated on both edges in consecutive inches to  $\frac{1}{8}$ ths, 16 inch centers in red. Inside readings marked in 6 scales for various types of block and brick on a 16 inch module.

Cat. No.	N/S No.	 $\frac{1}{8}$ " x $\frac{1}{8}$ " /mm	Pack Wt. lb/kg	Shelf Pack
646	45345	6' x $\frac{1}{8}$ "	2.27/1.03	6

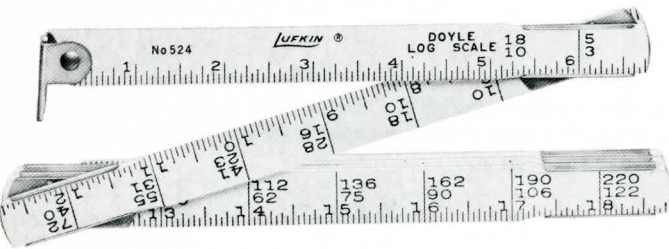
Home shop universal




Ends are finished and sealed. Spring joints and end caps are brass-plated steel. 460 and 460F both graduated consecutive inches to  $\frac{1}{8}$ ths on both edges and sides. 460 has regular markings; numbering is on outside of rule. 460F has flat markings; numbering is on inside of rule. 460CM—outside reading, graduated in millimeters, numbered centimeters. 460CME—outside reading, graduated millimeters, numbered centimeters one side, inches on other side.

Cat. No.	N/S No.	 $\frac{1}{8}$ " x $\frac{1}{8}$ " /mm	Pack Wt. lb/kg	Shelf Pack
460	45277	6' x $\frac{1}{8}$ "	1.7/.77	6
460F	45278	6' x $\frac{1}{8}$ "	1.7/.77	6
460CM	45842	2m x 16mm	1.7/.77	6
460CME	45843	6' / 2m x $\frac{1}{8}$ " / 16mm	1.7/.77	6

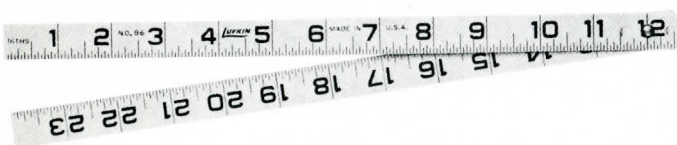
Doyle log scale



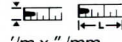
Hardwood section with ends finished and sealed. Folding hook, lock joints and end caps are brass plated steel. Marked outside for 10 and 18 foot logs, lower edge consecutive inches to  $\frac{1}{8}$ ths. Marked inside for 12, 14 and 16 foot logs.

Cat. No.	N/S No.	 " x $\frac{1}{8}$ " /mm	Pack Wt. lb/kg	Shelf Pack
524	45282	48" x $\frac{1}{8}$ "	1.13/0.51	1

Steel blacksmith's rules



This 2-foot, 2-fold rule is made of tempered steel,  $\frac{3}{4}$ " wide,  $\frac{1}{2}$ " thick. Deeply etched black markings are legible and permanent. Riveted joints have large side washers and a stop, bringing rule to a firm stop when opened straight. The lower edge on one side graduated to  $\frac{1}{8}$ ths of an inch, upper edge on other side to  $\frac{1}{8}$ ths, lower edge 75 circumference inches to  $\frac{1}{8}$ ths for converting diameters directly to circumference measurements.

Cat. No.	N/S No.	 $\frac{1}{8}$ " x $\frac{1}{8}$ " /mm	Pack Wt. lb/kg	Shelf Pack
86	45660	2' x $\frac{3}{4}$ "	1.85/0.84	12



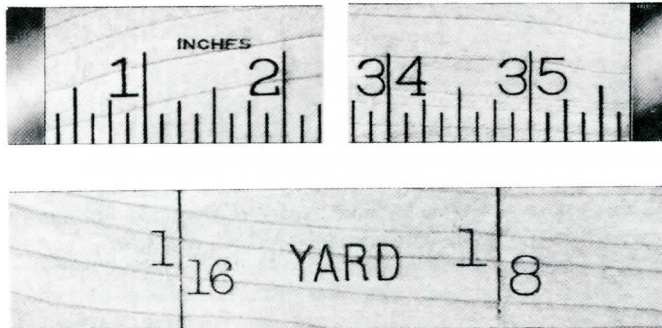
## Bench rules



One piece, selected hardwood, well seasoned. Tough, clear coating protects natural finish. Bold markings are embedded in the wood. Brass end caps prevent wear. Large graduations, inches numbered vertically top to bottom; opposite sides read from opposite ends. Marked both sides, both edges, one side in  $\frac{1}{8}$ ths, other side in  $\frac{1}{16}$ ths.

Cat. No.	N/S No.	" x " x "	Pack Wt. lb/kg	Shelf Pack
34 $\frac{1}{2}$ V	45058	$\frac{1}{2}$ " x $1\frac{1}{2}$ " x 12"	1.40/0.64	12
34V	45057	$\frac{1}{2}$ " x $1\frac{1}{2}$ " x 24"	2.65/1.20	12

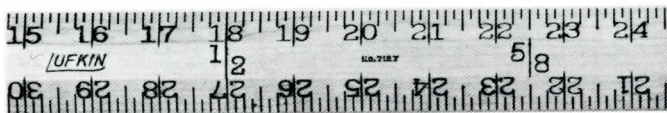
## Hardwood yardstick



One-piece, selected hard maple, smooth and well finished. Bold markings embedded in the wood. Brass end cap prevents wear. Marked on both sides reading from the same end. One side graduated on lower edge only in inches to  $\frac{1}{8}$ ths; other side graduated on both edges in fractions of yards,  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ .

Cat. No.	N/S No.	" x " x "	Pack Wt. lb/kg	Shelf Pack
7122	45505	$\frac{1}{2}$ " x 1" x 36"	3.14/1.42	12

## Beveled $1\frac{1}{4}$ yardstick

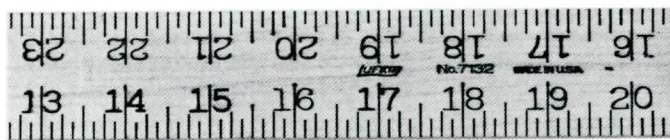


Designed for tailors and dressmakers for laying out, cutting, etc. Beveled both edges on one side so markings lie close to the work. Hole in one end for hanging.

Marked on bevel side only, graduated inches to  $\frac{1}{8}$ ths; opposite edges read from opposite ends. One flat center surface graduated in fractions of yards  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1",  $1\frac{1}{8}$ ".

Cat. No.	N/S No.	" x " x "	Pack Wt. lb/kg	Shelf Pack
7127	45506	$\frac{5}{16}$ " x $1\frac{1}{2}$ " x 45"	6.08/2.76	12

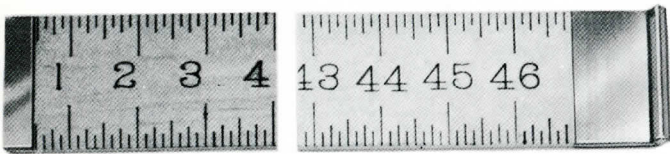
## Flat rules




Used extensively in shop, factory and textile industry as a bench rule. Easily read from either side of bench or table. Can be brought quickly to position on work, as measurements start at opposite ends. One-piece, selected hard maple, properly seasoned, smooth and well-finished, with clear protective coating. Hole in end for hanging. Bold markings embedded in wood. Large graduations, marked both sides, both edges. One side, inches to  $\frac{1}{8}$ ths, other side inches to  $\frac{1}{16}$ ths. Brass end caps prevent wear.

Cat. No.	N/S No.	" x " x "	Pack Wt. lb/kg	Shelf Pack
7132	45507	$\frac{1}{2}$ " x $1\frac{1}{2}$ " x 36"	4.58/2.08	12
7133	45508	$\frac{1}{2}$ " x $1\frac{1}{2}$ " x 48"	6.20/2.81	12
7134	45509	$\frac{1}{2}$ " x $1\frac{1}{2}$ " x 60"	—	12
7135	45510	$\frac{1}{2}$ " x $1\frac{1}{2}$ " x 72"	—	12

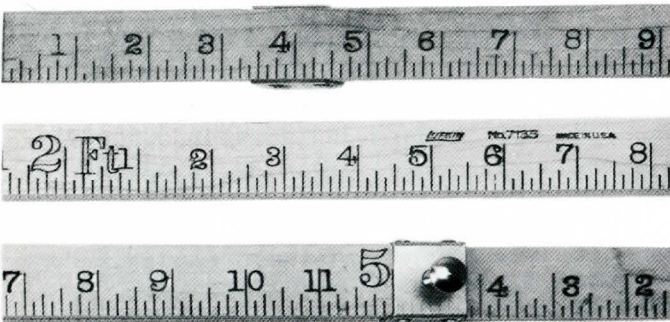
Glass cutter's rules, with brass lip



Used extensively by glass distributors and in glass factories. Superior rules of one-piece, selected hard maple, smooth and well-finished with clear protective coating. Bold markings embedded in the wood. Large graduations, marked both sides, both edges, consecutive inches to  $\frac{1}{8}$ ths. One end has sturdy, extruded brass lip or flange extending  $\frac{3}{8}$ " from one flat surface of rule, attached by four rivets extending through both side plates. Other end has brass cap. On upper face, zero falls at inside of lip, on lower face at opposite end of rule.

Cat. No.	N/S No.	 " x " x "	Pack Wt. lb/kg	Shelf Pack
7142	45513	$\frac{3}{8}$ " x 2" x 48"	—	1
7144	45514	$\frac{3}{8}$ " x 2 $\frac{1}{2}$ " x 72"	—	1
7146	45515	$\frac{3}{8}$ " x 3" x 96"	—	1
7148	45516	$\frac{3}{8}$ " x 3" x 120"	—	1
7149	45517	$\frac{3}{8}$ " x 3" x 144"	—	1

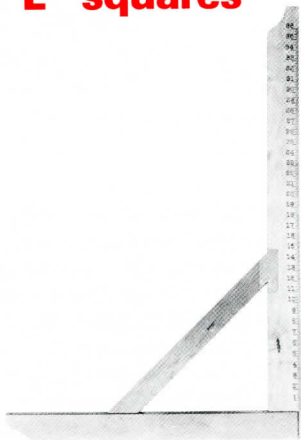
Builder's extension rules





Two-section sliding rule lets one man quickly and accurately measure from floor to ceiling or across openings. Tension spring and set screw hold sections secure, closed or extended. Selected, polished hard maple, smooth and well-finished, with clear protective coating. Bold markings embedded in the wood. Large graduations; marked feet, inches and  $\frac{1}{8}$ ths on lower edge of both sides. Brass plated clamps and end caps prevent wear. Sections are 1" wide,  $\frac{3}{8}$ " thick, with stop at both ends. 7165 closed length is 5 feet; opens to 10 feet. 7166 closed length is 6 feet; opens to 12 feet.

Cat. No.	N/S No.	Length	Pack Wt. lb/kg	Shelf Pack
7165	45518	5' to 10'	1.37/0.62	1
7166	45519	6' to 12'	1.47/0.66	1

Glass cutter "L" squares




These thoroughly seasoned hardwood squares are well-finished in the natural wood and have substantial corner brace with brass side plates. Blade is mortised through and securely riveted into the stock. Stock is brass bound on inner face and has shoulder on both sides of blade so square can be used on either side. One-piece, hard maple; natural finish with clear protective coating. Bold markings embedded in the wood. Large graduations, marked both sides on outer edges, inches to  $\frac{1}{8}$ ths. Zero on both sides falls at inside of stock.

Cat. No.	N/S No.	Blade  " x " x "	Stock  " x " x "	Shelf Pack
7170	45520	$\frac{1}{4}$ " x 3" x 36"	$\frac{1}{8}$ " x 2 $\frac{1}{2}$ " x 27"	1
7171	45521	$\frac{1}{4}$ " x 3" x 48"	$\frac{1}{8}$ " x 2 $\frac{1}{2}$ " x 27"	1
7172	45522	$\frac{1}{4}$ " x 3" x 60"	$\frac{1}{8}$ " x 2 $\frac{1}{2}$ " x 30"	1

Metric-English wood meter stick



7112ME is a high quality hardwood meter stick used in schools and laboratories where metric measurements are required. One side has large markings on both edges, centimeters to millimeters. The other side upper edge only is consecutive inches to  $\frac{1}{8}$ ths.

Cat. No.	N/S No.	 mm x mm x m	Pack Wt. lb/kg	Shelf Pack
7112ME	45504	6.35mm x 25mm x 1m	.27/.12	1



## School shop steel rules



Medium weight, tempered steel rules; popular in school shops and industrial plants. Hole in one end for hanging. Deeply-etched, permanent markings are black-filled for easy reading. Large graduations, marked upper edge both sides, one side  $\frac{1}{8}$ ths, other side,  $\frac{1}{16}$ ths. Opposite measure from opposite ends.

Cat. No.	N/S No.	" x " x "	Pack Wt. lb/kg	Shelf Pack
60-12	45073	$\frac{1}{2}$ " x $\frac{3}{4}$ " x 12"	0.15/0.07	6
60-24	45074	$\frac{1}{2}$ " x $\frac{3}{4}$ " x 24"	0.84/0.38	6

## One-piece steel rules



These substantial tempered steel rules are in demand by industrial users who want accuracy and legibility at a popular price. Also preferred by many school shop instructors. Bold markings, deeply-etched and permanent, are black-filled for easy reading; heavier than on machine-divided rules. Large graduations, marked both sides, both edges. Upper edge in  $\frac{1}{8}$ ths, lower edge in  $\frac{1}{16}$ ths. Opposite sides measure from opposite ends.

Cat. No.	N/S No.	" x " x "	Pack Wt. lb/kg	Shelf Pack
62-1	45079	$\frac{1}{8}$ " x $1\frac{1}{4}$ " x 1'	0.25/0.11	1
62-2	45080	$\frac{1}{8}$ " x $1\frac{1}{4}$ " x 2'	0.51/0.23	1
62-3	45081	$\frac{1}{8}$ " x $1\frac{1}{4}$ " x 3'	0.76/0.34	1
62-4	45082	$\frac{1}{8}$ " x $1\frac{1}{4}$ " x 4'	1.02/0.46	1
62-6	45083	$\frac{1}{8}$ " x $1\frac{1}{4}$ " x 6'	1.59/0.72	1

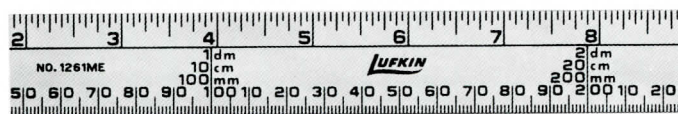
## Aluminum yardstick



Finest quality aluminum yardstick. Lightweight, flexible, rustproof, tarnish-free, plus sharply-defined, easy-to-read markings. Straight parallel edges for greater accuracy. Finer graduations read easier. Marked one side only, both edges in consecutive inches to  $\frac{1}{16}$ ths. Lies flat and has hang-up hole for storage.

Cat. No.	N/S No.	" x "	Pack Wt. lb/kg	Shelf Pack
1260	45380	$1\frac{5}{8}$ " x 36"	1.67/0.76	6

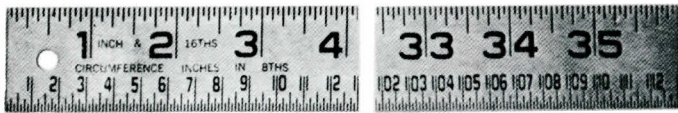
## Metric-English aluminum meter stick



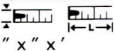
This aluminum meter stick is very useful in helping to make the transition to the metric system. It's graduated on the front side in inches to  $\frac{1}{16}$ th on upper edge and in decimeters, centimeters and millimeters on the lower edge. On the reverse side tables of equivalents and conversions are shown.

Cat. No.	N/S No.	" /mm x m	Pack Wt. lb/kg	Shelf Pack
1261ME	45381	1" / 27mm x 1m	1.6/.80	6

Tinner’s steel circumference rule



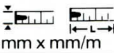
A standard rule with tinner's and other sheet metalworkers. Tempered medium-weight steel; hole in one end for hanging. Deeply-etched, permanent markings are black-filled for easy reading. Special graduations on 95-3' model, one side, upper edge, marked consecutive inches to  $\frac{1}{8}$ ths, lower edge, marked up to 113 circumference inches to  $\frac{1}{8}$ ths; on 95-4' model, one side, upper edge, marked consecutive inches to  $\frac{1}{8}$ ths, lower edge, marked up to 150 circumference inches to  $\frac{1}{8}$ ths. Reverse side of both models has formulas for calculating circumference diameter, area, etc., and size tables for laying out measures and cans.

Cat. No.	N/S No.	 " x " x '	Pack Wt. lb/kg	Shelf Pack
95-3	45098	$\frac{1}{8}$ " x $1\frac{1}{2}$ " x 3'	0.78/0.35	1
95-4	45099	$\frac{1}{8}$ " x $1\frac{1}{2}$ " x 4'	1.04/0.47	1

Metric school shop steel rule



This metric steel rule is graduated both sides on the top edge to millimeters. Every tenth millimeter is numbered throughout length. Bold graduations are easy to read; rule lies flat and has hang-up hole for storage.

Cat. No.	N/S No.	 mm x mm/m	Pack Wt. lb/kg	Shelf Pack
60M-300	45658	18mm x 300mm	0.08/0.08	1
60M-600	45659	18mm x 600mm	0.15/0.06	1
62M-300	45654	31mm x 300mm	0.26/0.18	1
62M-600	45655	31mm x 600mm	0.52/0.24	1
62M-1M	45656	31mm x 1m	0.83/0.38	1
62M-2M	45657	31mm x 2m	1.64/0.74	1

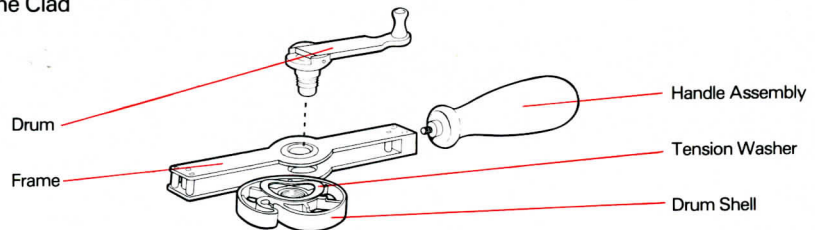


# Replacement parts for reels and frames

See catalog pages no. 28, 31 and 32 for listing of tape lines.

## 81 & 91 Series reels

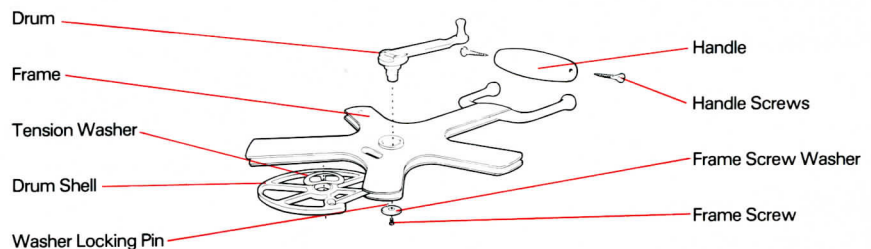
For  $\frac{3}{8}$ " / 10mm and  $\frac{1}{2}$ " / 13mm Widths – Chrome Clad and Gaging Tapes



Tape Width	Tape Length	Frame Type	Reel No.	Drum Cat. No.	Frame Cat. No.	Handle Cat. No.	Tension Washer Cat. No.	Drum Shell Cat. No.
$\frac{3}{8}$ "	50'	2 Arm	81-50	17124	10064	11819	17880	17282
$\frac{3}{8}$ "	100'	4 Arm	81-100	17125	10065	11819	17880	17282
$\frac{3}{8}$ "	200'	4 Arm	81-200	17127	10067	11819	17880	17282
$\frac{1}{2}$ "	25'	2 Arm	91-25	17129	10069	11819	17880	17289
$\frac{1}{2}$ "	50'	2 Arm	91-50	17130	10070	11819	17880	17289
$\frac{1}{2}$ "	75'	4 Arm	91-75	17133	10071	11819	17880	17289

## 41 & 61 Series reel frames

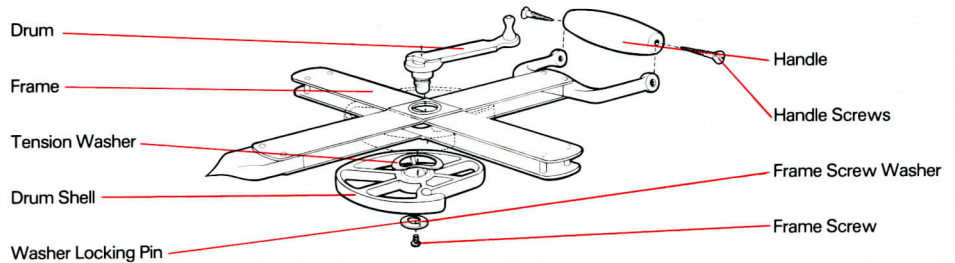
For 200, 300 and 500 Foot Lengths



Tape Width	Tape Length	Frame Type	Reel No.	Drum Cat. No.	Handle Screw Cat. No.	Handle Cat. No.	Frame Cat. No.	Tension Washer Cat. No.	Drum Shell Cat. No.	Washer Locking Pin Cat. No.	Frame Screw Washer Cat. No.	Frame Screw Cat. No.
$\frac{1}{8}$ "	200'	5 Arm	41-200	17105	5315	11806	10057	17880	17315	29395	12806	12401
$\frac{1}{8}$ "	300'	5 Arm	41-300	17106	5315	11806	10052	17880	17315	29395	12806	12401
$\frac{1}{8}$ "	500'	5 Arm	41-500	17107	5315	11806	10053	17880	17315	29395	12806	12401
$\frac{5}{16}$ " or $\frac{1}{4}$ "	200'	5 Arm	61-200	17105	5315	11806	10251	17880	17296	29395	12806	12401
$\frac{5}{16}$ " or $\frac{1}{4}$ "	300'	5 Arm	61-300	17106	5315	11806	10252	17880	17296	29395	12806	12401
$\frac{5}{16}$ " or $\frac{1}{4}$ "	500'	5 Arm	61-500	17107	5315	11806	10253	17880	17296	29395	12806	12401

## 31 & 51 Series reels

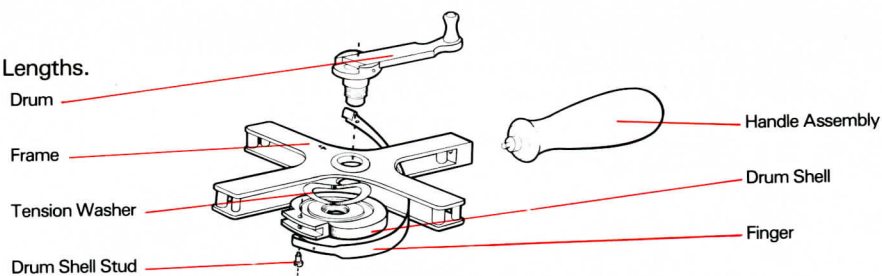
For Over 100 Foot Lengths



Tape Width	Tape Length	Frame Type	Reel No.	Drum Cat. No.	Handle Screw Cat. No.	Handle Cat. No.	Frame Cat. No.	Tension Washer Cat. No.	Drum Shell Cat. No.	Washer Locking Pin Cat. No.	Frame Screw Washer Cat. No.	Frame Screw Cat. No.
$\frac{5}{16}$ " or $\frac{1}{4}$ "	100'	4 Arm	31-100	17104	5315	11806	10056	17880	17296	29395	12806	12401
$\frac{5}{16}$ "	200'	4 Arm	31-200	17105	5315	11806	10057	17880	17296	29395	12806	12401
$\frac{5}{16}$ "	300'	4 Arm	31-300	17106	5315	11806	10058	17880	17296	29395	12806	12401
$\frac{1}{2}$ "	300'	4 Arm	51-300	17106	5315	11806	10046	17880	17296	29395	12807	12401
$\frac{5}{16}$ "	500'	4 Arm	31-500	17107	5315	11806	10059	17880	17296	29395	12806	12401

## 11 Series reels

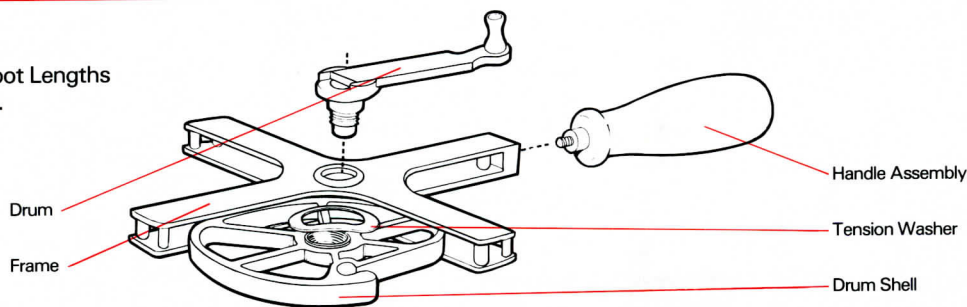
For  $\frac{1}{4}$ " / 6mm wide – 100, 200 and 300 Foot Lengths.  
Fits Peerless Chrome Clad Tapes



Tape Width	Tape Length	Frame Type	Reel No.	Drum Cat. No.	Frame Cat. No.	Handle Cat. No.	Tension Washer Cat. No.	Drum Shell Cat. No.	Finger Cat. No.	Drum Shell Stud Cat. No.
$\frac{1}{4}$ "	100'	4 Arm	11-100	17113	10033	11819	17880	17287	29365	17370
$\frac{1}{4}$ "	200'	4 Arm	11-200	17122	10036	11819	17880	17287	29365	17370
$\frac{1}{4}$ "	300'	4 Arm	11-300	17123	10037	11819	17880	17287	29365	17370

## 12 Series reels

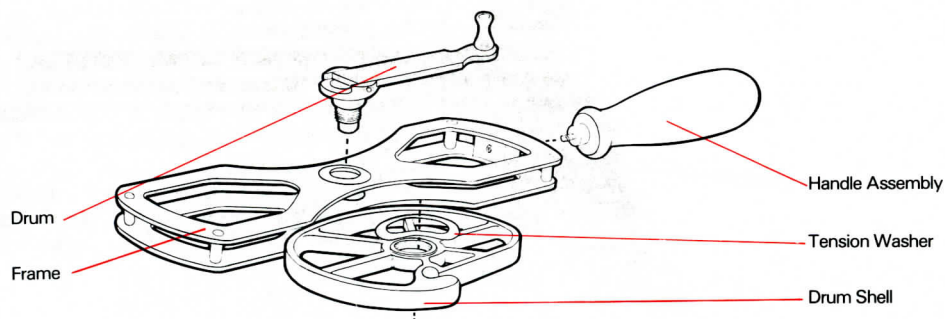
For  $\frac{1}{4}$ " / 6mm Wide 150 & 200 Foot Lengths  
Fits Western Chrome Clad Tapes.



Tape Width	Tape Length	Frame Type	Reel No.	Drum Cat. No.	Frame Cat. No.	Handle Cat. No.	Tension Washer Cat. No.	Drum Shell Cat. No.
$\frac{1}{4}$ "	150'	4 Arm	12-150	17120	10034	11819	17880	17288
$\frac{1}{4}$ "	200'	4 Arm	12-200	17120	10039	11819	17880	17288

## 31-100 Frame

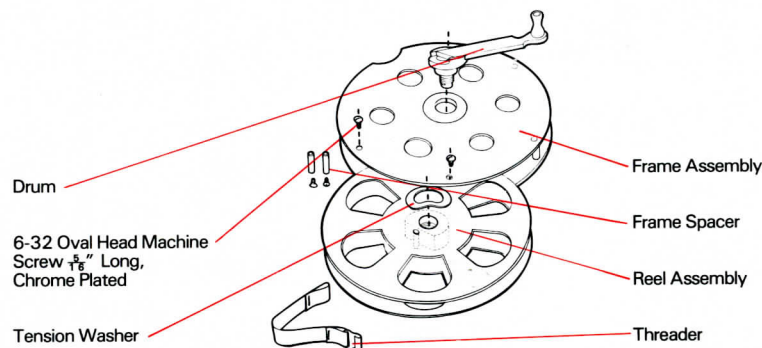
For 100 Foot Lengths Only



Tape Width	Tape Length	Frame Type	Reel No.	Drum Cat. No.	Frame Cat. No.	Handle Cat. No.	Tension Washer Cat. No.	Drum Shell Cat. No.
$\frac{1}{4}$ " or $\frac{5}{16}$ "	100'	2 Arm	31-100	17119	10054	11819	17880	17296

## 1407 Reel

For  $\frac{5}{8}$ " / 16mm Wide Woven Tape  
See catalog page no. 24 for complete unit and replacement lines.



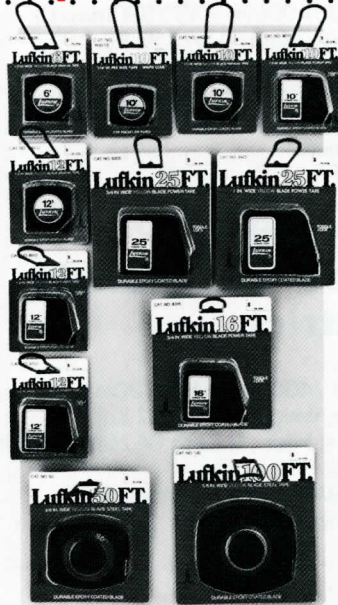
Drum Cat. No.	Screw Cat. No.	Frame Cat. No.	Tension Washer Cat. No.	Reel Cat. No.	Frame Spacer Cat. No.	Strap Handle Cat. No.	Threader Cat. No.
17055	5285	10239	17881	10830	12510	11814	20007



## Lufkin modules

For use with the Cooper Tool Wall. For additional information see the last 2 pages of this catalog.

### TW-11 (45754) Tape module



Size: 16"/400mm x 29"/740mm (A).  
Shipping weight: 16 lb/7.26 Kg.  
Contains: Two (2) Each W6110, Y826, Y8210, Y8212, 8010, 8012, 8312, 8316, 8325, 8425, 50, 100.  
TW-11A (45755) refill assortment only.

### TW-12 (45756) Tape module



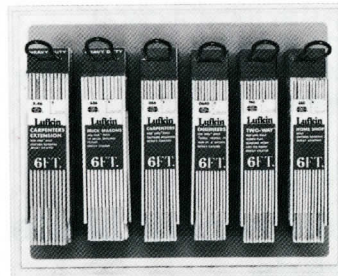
Size: 16"/400mm x 29"/740mm (A).  
Shipping weight: 22 lb/9.98 Kg.  
Contains: Two (2) Each W9210, W9212, W9312, W9316, Y210, Y212, Y12, Y16, Y25, Y116, Y125, HW223, HW226.  
TW-12A (45757) refill assortment only.

### TW-13 (45758) Replacement blade module



Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 6 lb/2.72 Kg.  
Contains: Two (2) Each RY416, RY425, RW10, RW12, RW312, RW316, RY325.  
TW-13A (45759) refill assortment only.

### TW-14 (45760) Wood rule module



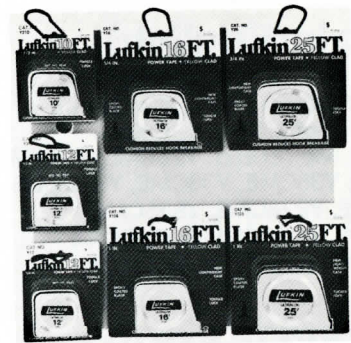
Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 7 lb/3.17 Kg.  
Contains: Two (2) Each X46, 066, 066D, 460, 966, 636.  
TW-14A (45761) refill assortment only.

### TW-15 (45832) Unilok



Size: 16"/400mm x 16"/400mm (B).  
Shipping weight: 10lb/4.53 Kg.  
Contains: Two (2) Each 8010, 8012, 8312, 8316, 8325, 8425.  
TW-15A (45833) refill assortment only.

### TW-16 (45834) Ultralok tape module



Size: 16"/400mm x 16"/400mm (B).  
Shipping weight: 10 lb/4.53 Kg.  
Contains: Two (2) Each Y210, Y212, Y12, Y16, Y25, Y116, Y125.  
TW-16A (45835) refill assortment only.

### TW-100 (45762) Measuring tool module



Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 7lb/3.17 Kg.  
Contains Two (2) Each W616, 8012, 8316, 8325, 066, 460.  
TW-100A (45763) refill assortment only.

### PWI (45001) Pee-Wee tape display



Size: 9 1/2"/2.41mm x 10"/2.54mm.  
Shipping weight: 20 lb/9.07 Kg.  
Contains: Four (4) Each W616, W618, W6110.



## **TW-301 (EXPORT)** **Tape module** **(Metric/English)**

Size: 16"/400mm x 29"/740mm (A).  
Shipping weight: 18 lb/8.16 Kg.  
Contains: Two (2) Each Y23CME, Y25CME,  
Y34CME, Y35CME, Y38CME, Y822CME,  
Y823CME, Y824CME, Y835CME,  
HY20CME, HY30CME, HY230CME.  
TW-301A Tape Module Assortment.

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## **TW-302 (EXPORT)** **Tape module** **(Metric)**

Size: 16"/400mm x 29"/740mm (A).  
Shipping weight: 18 lb/8.16 Kg.  
Contains: Two (2) Each Y23CM, Y25CM,  
Y34CM, Y35CM, Y38CM, Y822CM,  
Y823CM, Y824CM, Y835CM, HY20CM,  
HY30CM, HY230CM.  
TW-302A Tape Module Assortment.

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## **TW-303 (EXPORT)** **Measuring tool** **module** **(Metric/English)**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 6 lb/2.72 Kg.  
Contains: Two (2) Each Y23CME, Y35CME,  
Y38CME, Y824CME, Four (4) Each  
062CME. TW-303A Measuring Tool Module  
Assortment.

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## **TW-304 (EXPORT)** **Measuring tool** **module** **(Metric)**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 7 lb/3.18 Kg.  
Contains: Two (2) Each Y23CM, Y35CM,  
Y38CM, Y824CM, Four (4) Each 062CM.  
TW-304A Measuring Tool Module  
Assortment.

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## **TW-305 (EXPORT)** **Replacement blade** **module** **(Metric/English)**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 5 lb/2.27 Kg.  
Contains: Two (2) Each RY22CME,  
RY23CME, RY25CME, RY34CME,  
RY35CME, RY38CME.  
TW-305A Replacement Blade Module  
Assortment.

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## **TW-306 (EXPORT)** **Replacement blade** **module** **(Metric)**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 5 lb/2.27 Kg.  
Contains: Two (2) Each RY22CM,  
RY23CM, RY25CM, RY34CM,  
RY35CM, RY38CM.  
TW-306A Replacement Blade Module  
Assortment.

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## **TW-307 (EXPORT)** **Replacement blade** **module** **(Metric/English)**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 6 lb/2.72 Kg.  
Contains: Four (4) Each RY23CME,  
RY24CME, RY35CME, RY38CME.  
TW-307A Replacement Blade Module  
Assortment.

---

## **TW-308 (EXPORT)** **Replacement blade** **module** **(Metric)**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 6 lb/2.72 Kg.  
Contains: Four (4) Each RY23CM,  
RY24CM, RY35CM, RY38CM.  
TW-308A Replacement Blade Module  
Assortment.

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## **TW-309 (EXPORT)** **Wood rule module** **(Metric)**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 5 lb/2.27 Kg.  
Contains: Four (4) Each 062CM, 460CM,  
966CM.  
TW-309A Wood Rule Module  
Assortment.

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## **TW-310 (EXPORT)** **Wood rule module** **(Metric/English)**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 5 lb/2.27 Kg.  
Contains: Four (4) Each 062CME,  
460CME, 966CM.  
TW-310A Wood Rule Module  
Assortment.

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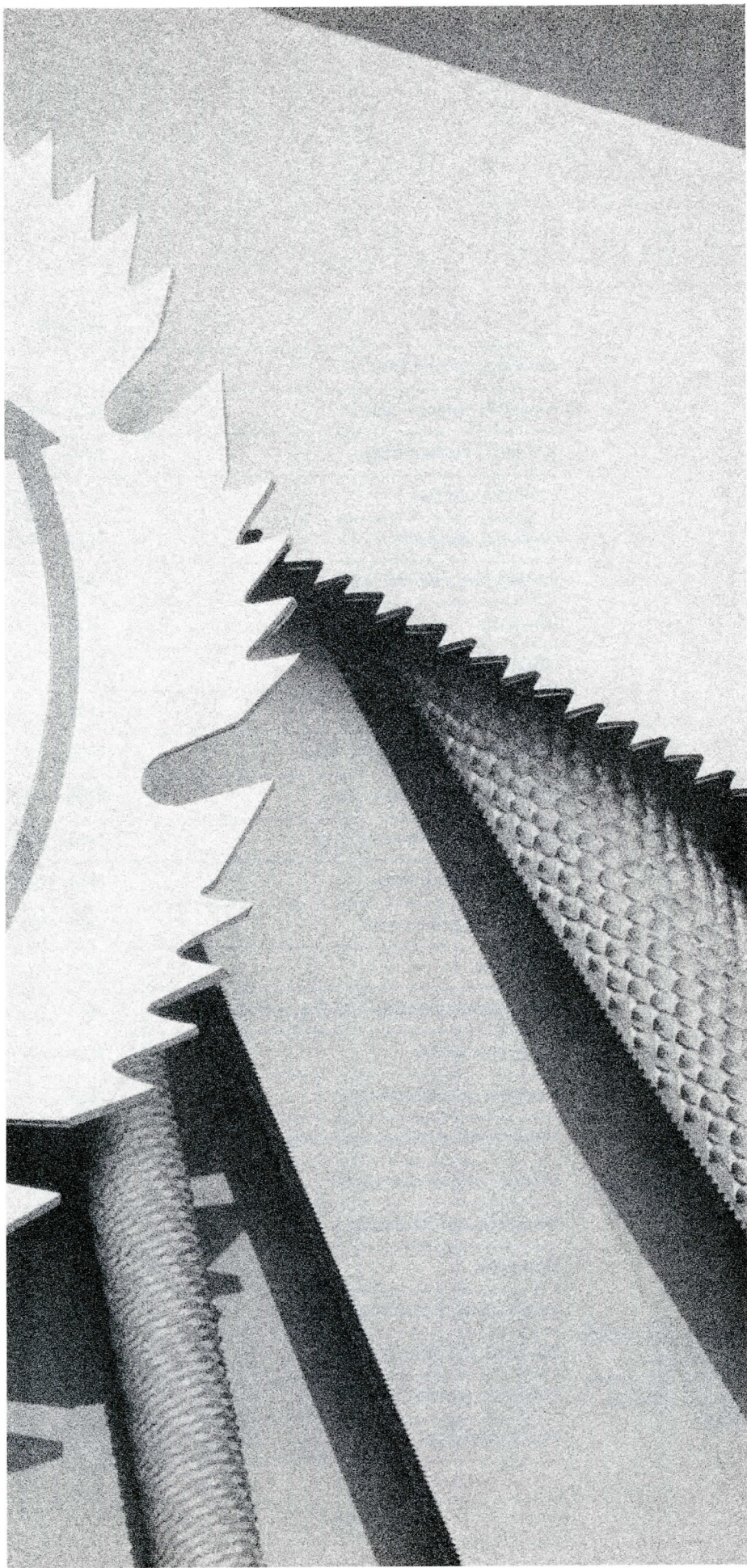
Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
062CM	L37	0C1294SME F/590	L19	146ME	L6	1294S ME		C1288	L26, L33
062CMD	L37	0C1295S F/590	L19	146P	L6	MEX F/590	L20	C1290S F/590	L19
062CME	L37	0C1296S F/590	L19	146PD	L6	1295S F/590	L20	C1290½ S F/590	L19
066	L36, L45	0C1296SME F/590	L19	150MM	L22	1296SME F/590	L20	C1291S F/590	L19
066D	L37, L45	0C1676D	L26	202	L18	1407	L24, L44	C1293S F/587½	L19
066F	L36	0C2276D	L26	263P	L12	1407D	L24	C1293S F/590	L19
068	L36	0C2276M	L26	263TP	L12	1688	L6	C1293SD F/590	L19
068F	L36	0C2276ME	L26	403	L24	1703	L23	C1293SME F/590	L19
0112P	L14	0C5100B	L30	403D	L24	1703D	L23	C1294S F/587½	L19
0120CH	L14	0C5200B	L30	403ME	L24	1706	L23	C1294S F/590	L19
0120P	L14	0C5300B	L30	404L	L24	1706D	L23	C1294SD F/590	L19
0120TP	L14	0C9100	L29	406	L24	1707	L23	C1294SM F/590	L19
0125CH	L14	0C9100B	L29	406D	L24	1707D	L23	C1296S F/590	L19
0146P	L6	0C9100M	L29	406ME	L24	2915MM/150MM	L20	C1296SME F/590	L19
0146PD	L6	0C9164M	L29	460	L38, L45	2915MM/590GM	L20	C1376D	L33
0263P	L12	0C9200B	L29	460CM	L38, L46	2920MM/150MM	L20	C1676D	L26
0403	L24	0C9300B	L29	460CME	L38, L46	2920MM/590GM	L20	C2276D	L26
0403D	L24	0C9328M	L29	460F	L38	3176ME	L6	C2276M	L26
0403ME	L24	0H403	L24	524	L38	6810	L5	C2276ME	L26
0404L	L24	0H403D	L24	552	L32	7112ME	L40	C2730MM	L27
0406	L24	0H406	L24	576	L34	7122	L39	C2730MME	L27
0406D	L24	0H406D	L24	576A	L34	7127	L39	C2750MM	L27
0406ME	L24	0H433	L12	576B	L34	7132	L39	C2750MME	L27
0703	L23	0H436	L12	576D	L34	7133	L39	C2910MM/150MM	L19
0703D	L23	0HC253	L11	576E	L34	7134	L39	C2910MM/590GM	L19
0706	L23	0HC256	L11	576F	L34	7135	L39	C2910MME/590GM	L19
0706D	L23	0HW50	L13	576G	L34	7142	L40	C2915MM/150MM	L19
01290S F/590	L20	0HW100	L13	577B	L35	7144	L40	C2915MM/590GM	L19
01291S F/590	L20	0HW223	L13	577C	L35	7146	L40	C2916MME/590GM	L19
01293S F/590	L20	0HW223D	L13	577D	L35	7148	L40	C2920MM/150MM	L19
01293SME		0HW226	L13	577K	L35	7149	L40	C2920MM/590GM	L19
MEX F/590	L20	0HW226D	L13	577M	L35	7165	L40	C2920MME/590GM	L19
01294SME		0LW23	L18	577P	L35	7166	L40	C2930MM/150MM	L19
MEX F/590	L20	0S1293 F/590	L20	577R	L35	7170	L40	C2930MM/590GM	L19
01295S F/590	L20	0Y50	L13	577T	L35	7171	L40	C2930MME/590GM	L19
01296SM F/590	L20	0Y100	L13	578	L35	7172	L40	C5030MB	L29
01296SME F/590	L20	1P	L14	578A	L35	8010	L4, L45	C5050MB	L29
01407	L24	11-100	L28, L44	578B	L35	8012	L4, L45	C50100MB	L29
01407D	L24	11-200	L28, L44	578C	L35	8312	L4, L45	C9030MB	L29
01707	L23	11-300	L28, L44	579	L26, L33	8316	L4, L45	C9050MB	L29
01707D	L23	12-150	L26, L28, L44	580	L33	8325	L4, L45	C9100B	L29
04300B	L31	12-200	L28, L44	580E	L33	8425	L4, L45	C9100MB	L29
05066A	L30	31-100	L30, L32, L43, L44	580F	L33	427257	L3	C9200B	L29
05100B	L30	31-200	L30, L31, L43	580H	L33	427277	L3	C9210	L3
05100M	L30	31-300	L30, L31, L43	580T	L26, L32	427279	L3	C9210M	L3
05165T	L31	31-500	L31, L43	583	L33	427331	L3	C9212	L3
05200B	L30	34V	L39	583C	L33	427333	L3	C9212X	L3
05300B	L30	34½ V	L39	584	L32	427335	L3	C9300B	L29
05500-30G	L30	41-200	L43	586	L33	427605	L3	C9312	L3
05500B	L30	41-300	L31, L32, L43	586D	L33	427607	L3	CD2730DMM	L26
062CM	L46	41-500	L43	587½	L22	427609	L3	CD2730MM	L26
062CME	L46	50	L45	588	L21	427613	L3	CD2730MME	L26
09100	L30	51-300	L31, L43	590	L19, L21	427615	L3	CD2750MM	L26
09100A	L30	60-12	L41	590A	L21	427617	L3	H403	L24
09100B	L30	60-24	L41	590G	L21	C2CME	L3	H403D	L24
09200B	L30	60M-300	L42	590GM	L21	C2M	L3	H406	L24
09300B	L30	60M-600	L42	593	L34	C3CME	L3	H406D	L24
0C120TP	L14	61-200	L30, L31, L32, L43	596	L34	C3M	L3	H433	L12
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<sup>®</sup>  
**Nicholson**

**CooperTools**



# Nicholson®

The Nicholson® File Company, formed in 1864, became the first successful manufacturer of machine-made files. Today, the wide Nicholson® range has increased in scope and size and includes files, rasps, circular saw blades, bandsaw blades, and handsaws, manufactured to uncompromising standards of quality.

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## Key to symbols

←—L—→ Overall length

### Note:

N/S No. is an abbreviation for NIDA/SIDA Number.

The following manuals and instruction leaflets are available. Please ask your local distributor or Cooper representative for copies.

- The Guide to Files and Filing
- Facts about Rotary Files and Burs
- Saw Guide
- Bandsaws—General Recommendations

Please order by using catalog numbers or when shown NIDA/SIDA Numbers. Each file has been assigned a catalog number to expedite the entry and shipment of your order. To facilitate order processing, please determine catalog number in the following manner:—8" Mill Bastard Nicholson Brand 08497.

**N is an abbreviation for Nicholson.**

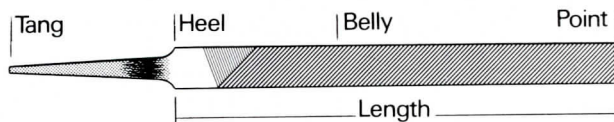


# Nicholson® Files and Rasps

The following information is included to help you make the right choice of file to meet your particular requirements.

## File Terminology:

### Length



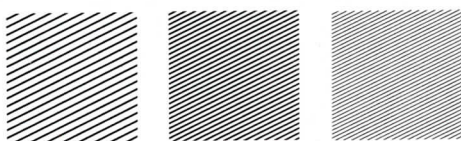
Length is measured exclusive of tang, from point to heel. Desired stroke length, type of material and its size will determine length required.

### Shape



Area to be filed will determine specific cross section-round, square, knife, flat, etc.-to be used.

### Coarseness

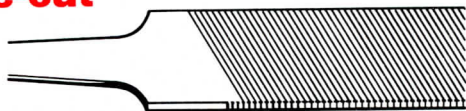


Work to be accomplished, roughing or finishing, will determine type of teeth and coarseness for each application. Most files are available with 3 grades of cut: bastard-cut, second-cut and smooth-cut.

The degree of coarseness is greater in longer files, but differences between bastard, second cut and smooth are proportionate.

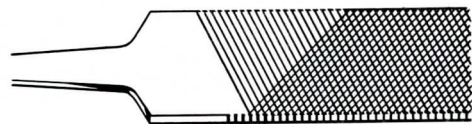
## Kinds of teeth

### Single-cut



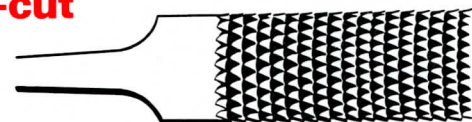
Single set of parallel, diagonal rows of teeth. Single-cut files are often used with light pressure to produce a smooth surface finish or to put a keen edge on knives, shears or saws.

### Double-cut



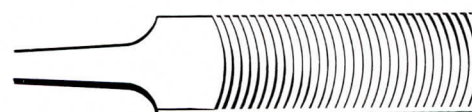
Two sets of diagonal rows of teeth. The second set of teeth is cut in the opposite diagonal direction and on top of the first set. The first set of teeth is known as the overcut while the second is called the upcut. The upcut is finer than the overcut. The double-cut file is used with heavier pressure than the single-cut and removes material faster from the workpiece.

### Rasp-cut



Series of individual teeth which are formed by a single-pointed tool. This produces a rough cut that is used primarily on wood, hooves, aluminum and lead.

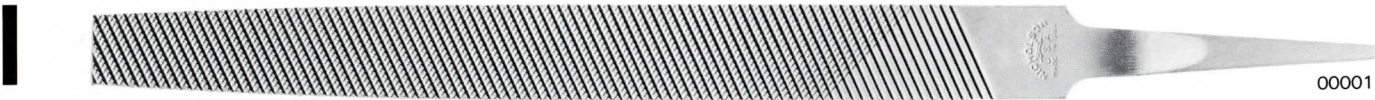
### Curved-cut



Teeth arranged in curved contours across the file face. The curved-cut file is normally used in automotive body shops for smoothing body panels.


# American pattern files

## Aluminum files – type “A” flat




Type “A” aluminum files have a special tooth construction which experience shows to be very effective in eliminating clogging. A smooth finish can be readily obtained by using a shearing cut toward the left.

Made in flat and half round shapes. Double-cut. All sizes have exactly the same cut, that is, the same number of teeth per inch. Half rounds have narrow points in 6”/150mm, 8”/200mm and 10”/250mm sizes only.

 /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	00001	1,3/539	12
8/200	00024	3,0/1361	12
10/250	00047	7,4/3289	6
12/300	00070	11,2/5046	6

## Aluminum files – type “A” half round



 /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	00113	1,9/765	12
8/200	00136	3,0/361	12
10/250	00161	5,12/2608	6
12/300	00187	10,7/4734	6

## Auger bit files




Auger bit files are designed to restore the original sharpness to the cutting edges of bits. One end of file has its edges left safe or uncut while the other end has safe sides. This construction prevents damage to surfaces adjacent to those being filed. Made in 7-inch length only.


 /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
7/178	00258	0,11/312	12

## Bandsaw taper files with narrow edges



When ordering special narrow edge bandsaw files be sure to determine width and order by appropriate catalog number.

Bandsaw taper No. 63			
 /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	00498	1,15/879	12

Bandsaw taper slim No. 64			
 /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	00526	1,7/652	12



## Bodifiles



A line of Bodifiles is available for those who work on automobile bodies, particularly in blending solder with sheet steel.

All "Flat" files — teeth on both sides.

All "Flat Bent" files — teeth on convex side only.

All "Flat Bent" files have tangs offset for knuckle clearance in filing large sheet metal surfaces.

For other Bodifiles see superior milled tooth section.



03129

Code No.	Teeth Per Inch	Size	Cat. /N/S Band "R" No. /No. " /mm	Wt. per doz. lb., oz/g
50-204 D/C	10	1 $\frac{11}{32}$ " x $\frac{5}{8}$ " 14 Flat Bent	03103	16,10/7541
50-210 D/C	10	1 $\frac{11}{32}$ " x $\frac{5}{8}$ " 14 Flat Bent	03129 50"/1271	16,10/7541
50-404 D/C*	20	1 $\frac{11}{32}$ " x $\frac{5}{8}$ " 14 Flat Bent	03184 196"/4981	16,10/7541
50-407 D/C	13	1 $\frac{11}{32}$ " x $\frac{5}{8}$ " 14 Flat Bent	03212 80"/2033	16,10/7541
50-415B S/C**	11	1 $\frac{11}{32}$ " x $\frac{5}{8}$ " 14 Flat Bent	03271 80"/2033	16,10/7541

D/C = Double-Cut S/C = Single-Cut

\*For fine finishing steel surfaces. All others used on steel or body solder or both together.

\*\*With rounded edges.

## Cabinet files



Made for use by cabinetmakers and woodworkers. Cabinet files are half round in section. Their radius is larger than that of regular half round files and they are thinner. Their teeth are slightly finer than those of the wood files.



01232

←→ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	01232	3,00/1361	12
10/250	01260	5,07/2466	6

## Cantsaw files



For sharpening crosscut saws with "M" teeth, for circular saws and for saw teeth with less than 60° angle. Same number of teeth per inch as mill bastard files of equivalent length. Single-cut. Edges set and cut. Regularly supplied with cut back. "Cut backs" furnished unless "safe backs" definitely ordered.



01327

### Cut Back

←→ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	01327	1,07/652	12
8/200	01387	3,03/1446	12
10/250	01418	5,09/2523	12

### Safe back

←→ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	01448	1,07/652	12

## Chain saw files — Round smooth



This new round smooth chain saw file is a product of extensive research and development in the engineering laboratories of Nicholson.

Field tests by chain saw users and competitive tests by many leading chain saw manufacturers prove that the new round smooth chain saw file is the smoothest-feeling, fastest-cutting and best-finished.



01964

Code No.	Cat. /N/S No. /No.	←→ "/mm	⊘ "/mm	Wt. per doz. lb., oz/g	Shelf Pack
83	01753	8/200	$\frac{3}{8}$ "/4.76	0,13/369	12
835	01876	8/200	$\frac{3}{8}$ "/5.55	1,02/510	12
84	01964	8/200	$\frac{1}{2}$ "/6.35	1,06/624	12
85	02082	8/200	$\frac{5}{8}$ "/7.93	2,03/992	12
86	02150	8/200	$\frac{3}{4}$ "/9.52	3,00/1361	12
610	01576	6/150	$\frac{1}{8}$ "/3.17	0,07/198	12
620	01609	6/150	$\frac{3}{8}$ "/3.96	0,08/227	12



## Chain saw files—flat



Code number together with words "Flat Chain Saw Files" are stamped on tang for identification. For cutter-raker type (2 round edges).

Code No.	Cat. /N/S No. /No.	↔ "/mm	Wt. per doz. lb., oz/g	Shelf Pack
18	02215	8/200	2,14/1304	12

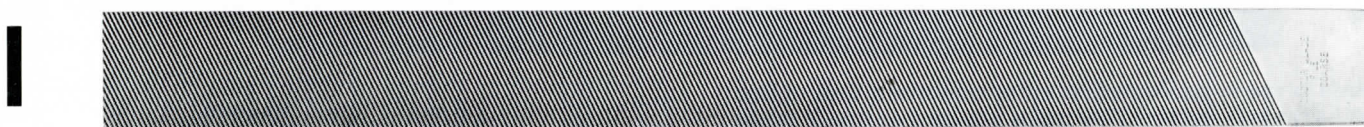
## Crosscut—Great American



Originally made for sharpening saws of Great American type. Now used for sharpening varieties of crosscut saws. Same number of teeth per inch as mill bastard files of same lengths. Rounded backs of files used to deepen rounded gullets of saw teeth. Single-cut. Rounded back and thin edge are also cut.

↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	02435	3,04/1474	12
10/250	02465	6,04/2835	12

## Doctor blade files



Doctor blade files are made for filing doctor blades in the cloth-printing industry. Made in one length only—14" without tang—parallel in width and thickness. Coarse Cut only.

↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
14/356	02828	16,01/7286	6

## Double Ender Files



Single-cut on sides and edges from points to center giving filer full use of file. Six handles supplied with each dozen Double Ender Files.

↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	02884	0.11/312	12
7/178	02905	0.13/369	12
8/200	02926	1.04/567	12
9/225	02949	2.00/907	12
10/250	02969	2.06/1077	12

## Flat files

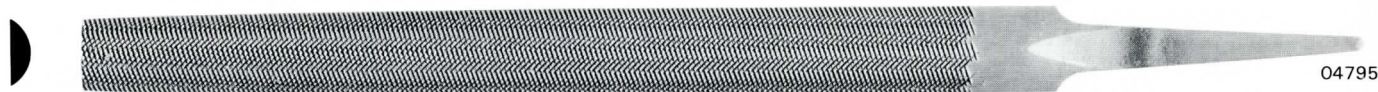


Flat files are used by machinists, machinery builders, ship and engine builders, repair men and others who require rapid removal of metal. They are rectangular in cross section and taper slightly towards point in both width and thickness. Double-cut on both sides, single-cut on both edges.

↔ "/mm	Catalog & Nida/Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
	Bastard	Second Cut	Smooth		
4/114	03367	—	03434	0,09/255	12
6/150	03467	03500	03533	1,09/709	12
8/200	03566	03599	03632	3,12/3261	12
10/250	03665	03698	03731	7,03/3261	6
12/300	03764	03797	03830	11,04/5103	6
14/356	03863	03896	03929	16,10/7541	6
16/400	03980	—	—	24,02/10943	6



## Half round files



Rounded on one side. Flat on the other. Used on concave and convex as well as flat surfaces. Backs of all half round bastard files are double-cut. The backs of all half round second cut files longer than 6 inches are double-cut, the 4 and 6 inch files are single-cut. The backs of all half round smooth files are single-cut. The flat sides of all half round files are double-cut.

" /mm	Catalog & Nida/Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
	Bastard	Second Cut	Smooth		
4/114	04695	04729	04762	0,10/284	12
6/150	04795	04828	04861	1,09/709	12
8/200	04896	04927	04960	3,05/1503	12
10/250	04995	05026	05059	6,01/2750	6
12/300	05094	05125	05158	10,08/4763	6
14/356	05194	05225	05258	16,04/7371	6
16/400	05307	—	—	23,14/10830	6

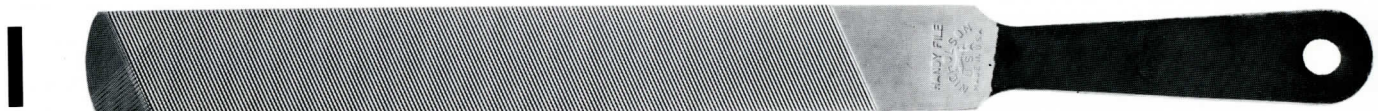
## Hand files



Similar to regular flat files but taper in thickness only. Double-cut. One edge safe or uncut. Same coarseness as flat files of corresponding lengths.

" /mm	Catalog & Nida/Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
	Bastard	Second Cut	Smooth		
6/150	—	—	05804	1,12/794	12
8/200	05853	05886	05919	3,14/1758	12
10/250	05968	06001	06034	7,08/3402	6
12/300	06084	06117	—	11,06/7768	6

## Handy file



This gives the user a combination file: single-cut on one side for sharpening edged tools and smoothing metal surfaces, double-cut on other side for rapid removal of metal. One edge is "cut" and the other is "safe" or "uncut." Convenient "hang up" hole. Length measured exclusive of handle. Available carded only.

$\left  \leftarrow \rightarrow \right $ " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	06601	5,10/2268	6

## Home and garden file



Sharpens knives, scissors and garden tools. Sharpens rotary mower blades to knife-like edge and smooths nicks that tear grass. Files come skin-packed for pegboard display. Shipped in its own corrugated merchandiser for retail display. Available carded only.

$ \leftarrow L \rightarrow $ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
10/250	11488	4.08/2041	12

## Knife files



06804

Knife files are of knife blade section and used principally by tool and die makers on work having acute angles. All double-cut on sides and single-cut on sharp edge. Knife files are regularly supplied with safe backs, unless cut backs are specified.

←L→  "/mm	Catalog & Nida/Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
	Bastard	Second Cut	Smooth		
4/114	06711	06742	06773	0,06/170	12
6/150	06804	06836	06867	1,03/539	12
8/200	06898	06930	06961	2,08/1134	12
10/250	06992	07023	07054	4,10/2098	12

## Long angle lathe files

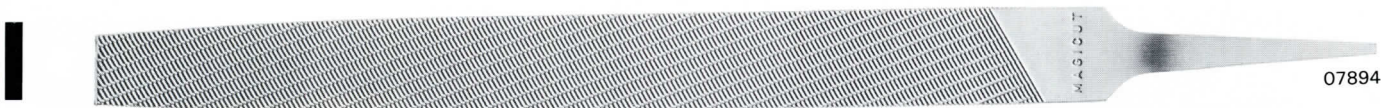


07657

Long angle lathe files are rapid, free cutting files, designed for lathe filing. Cut faster than regular mill files and leave a smoother finish. Made on flat blanks in bastard cut. Edges are safe or uncut to protect the shoulder or dog. Identified by words "Flat Long Angle" on file. All long angle files are single-cut.

←L→ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
10/250	07657	7,03/3260	6
12/300	07688	11,04/5103	6
14/356	07719	16,10/7541	6

## Magicut<sup>®</sup> files



07894



Enlarged close-up shows the unique pattern of narrow chip breakers created by steep and angled serrations. This maximum cutting surface design gives rapid removal and smoother finish. "Magicut" is a machinist's all purpose file, which removes stock rapidly and leaves a smooth finish at the same time, thus eliminating the need for extra filing strokes.

←L→ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	07894	3,12/1701	12
10/250	07917	3,07/3260	6
12/303	07941	11,4/5103	6
14/356	07965	16,10/7541	6



## Mill files



For sharpening mill or circular saws. Also for draw-filing and finishing metals. All sizes tapered slightly in width, 12", 14" and 16" slightly in thickness for about one-third of length. Two square edges. Single-cut on sides and edges.

" /mm	Catalog & Nida/Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
	Bastard	Second Cut	Smooth		
4/113	08243	—	08306	0,08/227	12
6/150	08354	08385	08416	1,03/539	12
8/200	08497	08529	08560	2,12/1247	12
10/250	08642	08673	08704	5,07/2466	12
12/303	08737	08768	08799	9,01/4111	6
14/356	08832	—	08894	14,00/6350	6
16/400	08925	—	—	21,00/9526	6

## Mill files – 1 and 2 round edges



Same as regular mill files except that they have one or two round edges. Bastard cut, single-cut on sides and edges. Round edges are used where rounding gullets are preferred, as compared to sharp corners or squared gullets.

### One round edge bastard cut

" /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	09099	2,13/1276	12
10/250	09179	5,01/2296	12

### Two round edge bastard cut

" /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	09389	2,11/1219	12
10/280	09469	5,01/2296	12

## Mill western cut files



Mill western cut files are available for those who desire fast cutting mill files. They are slightly coarser than mill bastard.

" /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	09641	2,12/1247	12
10/250	09658	5,07/2466	12
12/303	09677	9,01/4111	6

## Pillar files



Pillar files have a rectangular cross section. They are like hand files in general shape but are narrower. They have one edge safe or uncut. Used mostly by machinists for filing slots and keyways. Available in bastard cut only.

" /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	11118	3,11/1673	12

Round Files



Principal use is to file circular openings or concave surfaces. Tapered slightly towards point. All 4", 6", 8", 10" files are single-cut, 12" bastard and second cut are double-cut. 12" smooth is single-cut and 14" bastard is double-cut.

Length "/mm	Dia. "/mm	Catalog & Nida/Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
		Bastard	Second Cut	Smooth		
4/113	—	11526	11559	11592	0,04/113	12
6/150	—	11716	11748	11781	0,14/397	12
8/200	—	11904	11936	11969	1,06/624	12
10/250	5/8"/10mm	12019	12051	12084	3,03/1446	12
12/303	1 1/2"/13mm	12134	12166	12199	6,13/3090	6
14/356	1 3/8"/16mm	12248	—	—	11,15/5415	6

Square files



For filing slots, keyways and general surface filing. Larger sizes frequently preferred to corresponding flat files because of heavier section and four filing surfaces. Tapered slightly towards point. Double-cut.

Length "/mm	Dia. "/mm	Catalog & Nida/Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
		Bastard	Second Cut	Smooth		
4/113	5/32"/4mm	12790	12824	12857	0,04/113	12
6/150	1/4"/6mm	12967	13000	13033	1,01/482	12
8/200	5/16"/8mm	13081	13114	13147	1,15/879	12
10/250	3/8"/10mm	13196	13229	13262	3,14/1758	12
12/303	1 1/2"/13mm	13310	13343	13376	8,06/3799	6
14/356	1 3/8"/16mm	13425	—	—	14,12/6691	6

Taper (Triangular) saw files

Triangle saw files are made for filing all types of saws with 60° angle teeth. Single-cut. Edges set and cut for filing gullets between saw teeth. In filing handsaws, it is important to select the right file. In general, the table lists the suggested size and type of file that will give the best results.

Number of Points	Files Recommended
5	7" /178mm Taper Regular
5 1/2	7" /178mm Taper Regular
6	7" /178mm or 8" /200mm Slim
7	6" /150mm or 7" /178mm Slim
8	6" /150mm Slim 7" /178mm Extra Slim 8" /200mm Double Extra Slim
9	6" /150mm Extra Slim 7" /178 mm Double Extra Slim
10	5" /127mm or 6" /150mm Extra Slim
11	5" /127mm Extra Slim 6" /150mm Double Extra Slim
12	5" /127mm Extra Slim
13,14	5" /127mm Double Extra Slim
15,16	5" /127mm Double Extra Slim

Taper files – regular



Length "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	13807	2,00/907	12
7/178	13841	2,15/1332	12
8/200	13875	4,05/1956	12
10/250	13930	7,08/3402	12

Taper files – heavy



Length "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
5/140	14015	—	12
6/150	14032	—	12



## Taper files – slim



↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
4/113	14106	0,06/170	12
5/140	14162	0,09/255	12
6/150	14224	1,01/482	12
7/178	14255	1,11/765	12
8/200	14290	2,10/1191	12
10/250	14341	5,03/2353	12

## Taper files – extra slim



↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
4/113	14547	0,04/113	12
5/140	14599	0,06/170	12
6/150	14665	0,11/312	12
7/178	14698	1,03/539	12
8/200	14729	1,14/851	12

## Taper files – double extra slim



↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
5/140	14992	0,05/142	12
6/150	15024	0,09/255	12
7/178	15056	0,12/340	12
8/200	15087	1,01/482	12

## Taper files – double-cut saw files (M.F.)



Designed and recommended primarily for use in saw filing machines.

### Taper double-cut M.F.

↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	15334	2,00/907	12

### Taper slim double-cut M.F.

↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	15395	1,01/482	12
7/178	15418	1,11/765	12

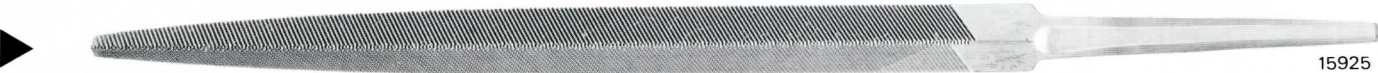
### Taper extra slim double-cut M.F.

↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	15460	0,11/312	12
7/178	15481	1,03/539	12

### Taper double extra slim double-cut M.F.

↔ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	15524	0,09/255	12
7/178	15545	0,12/340	12

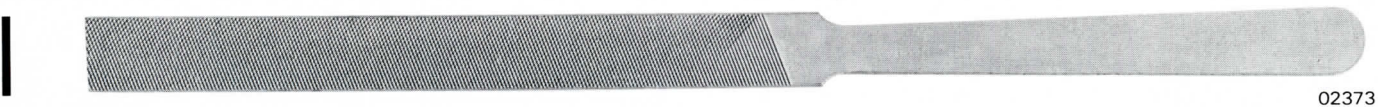
## Three square files



Three square files are triangular in cross section, like tapers, but are double-cut and have fairly sharp corners that are slightly set and cut. These files are for general use by machinists for filing internal angles more acute than the right angle, for clearing out square corners and filing taps and cutters. Grading of cuts according to coarseness is same as Square File.

←→  "/mm	Catalog & Nida /Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
	Bastard	Second Cut	Smooth		
6/150	15925	15958	15991	1,15/879	12
8/200	16036	16069	16102	4,4/1928	12
10/250	16147	16180	16213	7,8/3402	12

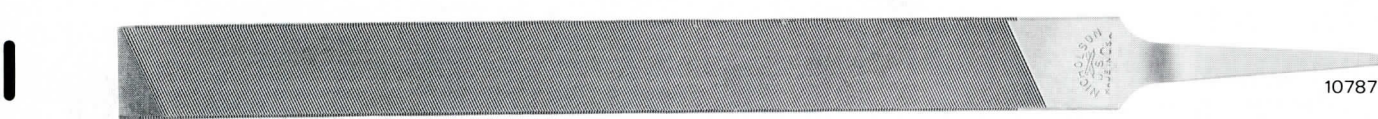
## Tungsten point files



Tungsten point files are for dressing distributor points that are tipped with tungsten, iridium and similar metals. Files are 5¼ inches overall and double-cut. Chisel tip of file enters slots or gaps easily. Approximate size ⅝" /8mm x .044" /1.10mm.

←→  "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
5¼/133	02373	2,8/1134	12 Boxed
5¼/133	02381	3,8/1588	12 Carded

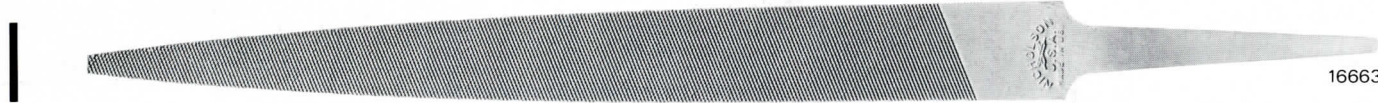
## Veneer knife files



These are actually mill blunt bastard two round edge files with teeth especially designed for sharpening veneer knives.

←→  "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	10787	3,0/1361	12
10/250	10799	5,8/2495	12

## Warding files

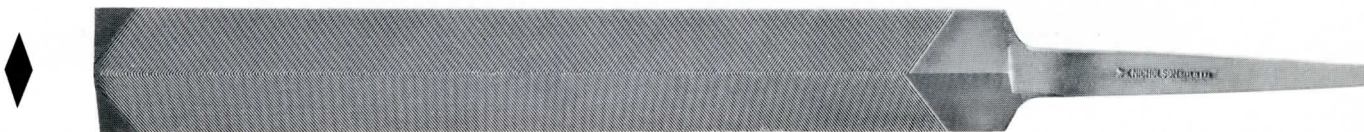


Warding files are rectangular in section and used principally by locksmiths in repairing or filing ward notches in keys. Also suited for use in narrow spaces where other files will not fit. All double-cut on sides, single-cut on edges.

←→  "/mm	Catalog & Nida /Sida Numbers			Wt. per doz. lb., oz/g	Shelf Pack
	Bastard	Second Cut	Smooth		
4/114	16507	16540	16573	0,5/142	12
6/150	16663	16696	16729	0,13/369	12
8/200	16761	16794	16827	1,10/737	12
10/250	16859	16891	—	—	12



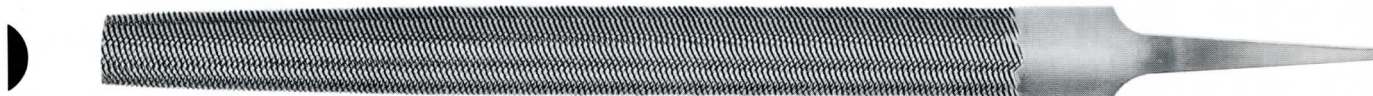
## Web saw files



Web saw files are for filing pulpwood or web saws. Because of their shape, they are specially suited for filing saws that have cutting teeth of less than 60° angle or wherever it is desirable to file each bevel of the tooth separately.

Length " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	17037	3,0/1361	12

## Wood files (Coarse) – half round



Wood files are made in the same sections and size as half round files. However, they have especially coarse teeth, fitting them for use on wood.

Length " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
10/250	17505	6,1/2750	6

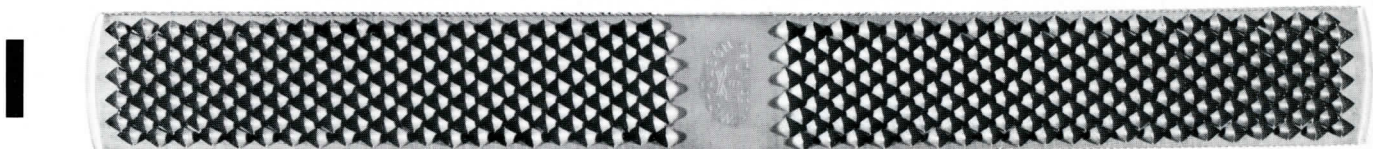
## Cabinet rasps



Cabinet rasps are for use by cabinetmakers and woodworkers. The curved side of these rasps is similar to that of half round rasps but has a larger radius. Single-cut on edges.

Length " /mm	Catalog & Nida /Sida Numbers		Wt. per doz. lb., oz/g	Shelf Pack
	Regular (Second Cut)	Smooth		
8/200	17615	—	3,0/1361	12
10/250	17683	17718	5,7/2466	6
12/300	17751	17786	9,5/4224	6

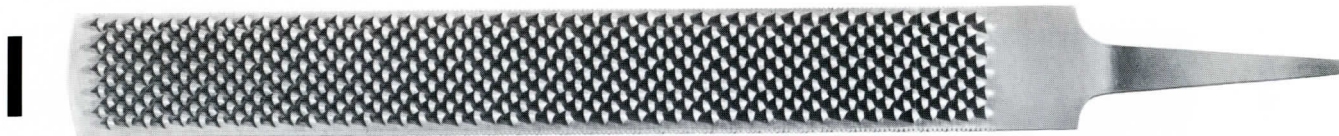
## Horse rasps – plain $\frac{1}{2}$ file



Horse rasps are made in two different types, plain and tanged. Plain horse rasps are double-ended; they have rasp teeth on one side and file teeth on the other. Made in regular, slim and a new pattern called 18" plater's double-ended horse rasp. Many farriers prefer this thin fine-toothed rasp for shoeing racetrack and riding horses.

Regular				17873
Length " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack	
12/300	17873	13,15/6322	6	
14/350	17903	19,10/8902	6	
Slim plater's double-ended				
18/460	18005	28,0/12701	6	

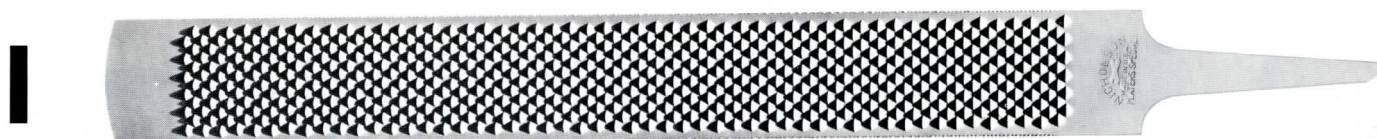
## Horse rasps – tanged



Tanged horse rasps are the same as plain horse rasps in tooth construction. They have the rasp teeth on one side and file teeth on the other. Single-cut on edges.

←→ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
14/350	18057	26,8/12020	6

## Horse rasps – tanged plater's special

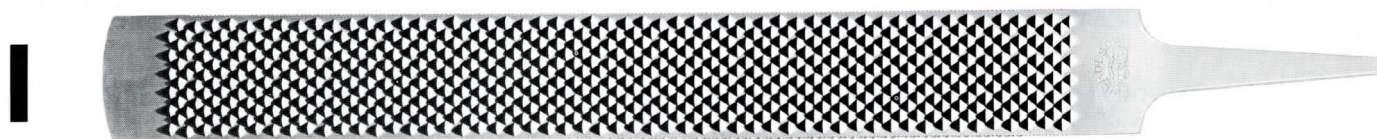


Plater's special horse rasps have rasp teeth on one side with file teeth on the opposite side. Both sides are safe  $\frac{7}{8}$ "/22mm at point. Rasp cut is six teeth per row. (All other horse rasps have five teeth per row). Primarily for race track and other horses using light shoes. Plater's special horse rasps are sharper than regular horse rasps.

**Plater's special double extra thin**

←→ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
14/350	18157	16,6/7428	6

## Magicut® plater's special horse rasp



Tooth design is cut deeper to last longer and cut much faster than conventional horse rasps. Rasp cut is six teeth per row. Single-cut on edges. Opposite side has Nicholson's® unique Magicut file pattern of narrow chip breakers created by steep and angled serrations. This maximum cutting surface design gives rapid removal and smoother finish.

←→ "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
14/350	18130	15,12/7144	6

## American Pattern Rasps

### Pattern maker's cabinet rasps

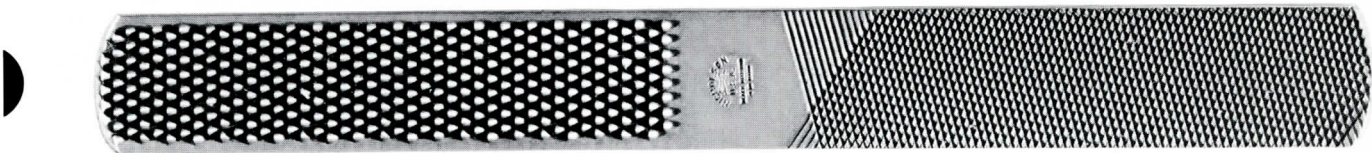


**Cut edges**

Code No.	Size and Kind	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
49-10"	Pattern maker's cabinet rasps 2nd Cut, Narrow pattern	18846	3,10/1644	6
50-10"	Pattern maker's cabinet rasps Smooth, Narrow pattern	18861	3,06/1531	6



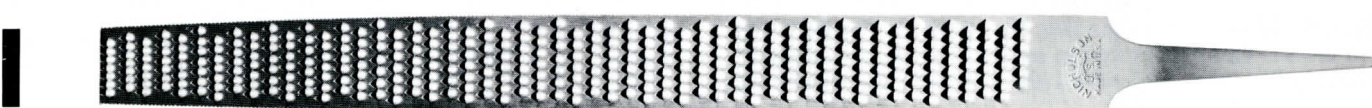
4-in-Hand® (formerly shoe rasp)



This versatile tool is really four files in one – with a file section and a rasp section on the flat side and a file section and a rasp section on the half round side. Every homeowner, garage man, boat builder and mechanic needs one.

Length " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	18924	4,02/1871	6
10/250	18962	7,09/3430	6

Wood rasps – flat bastard



Length " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
10/250	19136	7,08/3402	6

Wood rasps – half round bastard



Length " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	19361	1,08/680	12
8/200	19394	3,07/1559	12
10/250	19427	6,08/2948	6
12/300	19460	10,08/4763	6
14/350	19493	16,15/7683	6

Wood rasps round bastard



Round wood rasps are used for the same purpose as regular wood rasps in places for which their shapes make them particularly effective. Made from steel of the same size as round files.

Length " /mm	Dia. " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
10/250	3/10mm	19875	3,04/1474	12

## Nicholson® X.F.® Files Swiss Pattern


Nicholson X.F. Swiss pattern files are made to more exacting measurements than American pattern files. X.F. Swiss pattern files are made in much finer cuts, which vary from No. 00, which is the coarsest, to No. 6, the finest.

X.F. Swiss pattern files are used by tool and die makers, delicate instrument parts finishers, jewelers, model makers, and home craftsmen. In short, everyone who does superfine precision filing will have many uses for X.F. Swiss pattern files.

### Barrette files




Barrette files are flat on one side. The backs are beveled on the edges as indicated by the cross section. The included angle is 33 degrees. The wide flat sides are double-cut. Back and beveled edges are "safe" or uncut.

 " /mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
3/76	35001	00	0,03/85	12
3/76	35006	0	0,03/85	12
4/101	35025	00	0,09/255	12
4/101	35031	0	0,09/255	12
4/101	35037	1	0,09/255	12
4/101	35043	2	0,09/255	12
6/150	35055	00	1,05/595	12
6/150	35061	0	1,05/595	12
6/150	35073	2	1,05/595	12
8/200	35091	0	2,14/1304	6
8/200	35099	2	2,14/1304	6

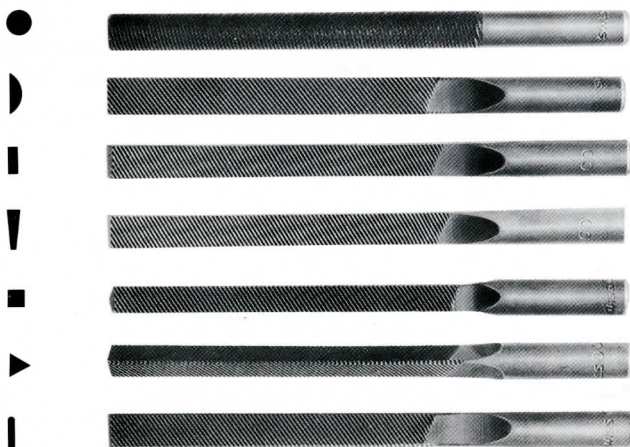
### Barrette files – hot die



Same as regular Barrette files except with thinner point. 3-inch and 4-inch have an approximate point thickness of .040" / 1.10mm.

 " /mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
3/76	35108	00	0,03/85	12
3/76	35111	0	0,03/85	12
4/101	35114	00	0,09/255	12
4/101	35117	0	0,09/255	12

### 3¼" / 83mm Bench filing machine files



Bench filing machine files are designed for use in machines for filing dies and patterns. Direction of cutting stroke is towards the shank. They are 3¼" / 83mm inches overall and have ¼" / 6mm round shanks. Made in seven different shapes.

Description	Cat. /N/S No. /No.	Size " /mm x " /mm	Cut	Wt. per doz. lb., oz/g	Shelf Pack
Round	35283	¼" / 6mm	00	0,10/284	12
Half Round	35289	¼" / 6mm x ⅜" / 13.57	00	0,06/170	12
Pillar	35295	⅜" / 15.55 x ⅛" / 3mm	00	0,07/198	12
Knife	35307	¼" / 6mm x ⅛" / 3mm	00	0,06/170	12
Square	35313	⅜" / 4.76mm	00	0,08/227	12
Three Square	35319	⅜" / 5.55mm	00	0,07/198	12
Equaling	35331	⅜" / 15.55mm x ⅛" / 3mm	00	0,07/198	12



## Corrugating files, hand



Hand corrugating files are made for corrugating the edges of barber's shears and other edged tools. Made of rectangular and double-cut. They are designed to corrugate the blade when stroked straight across or, in other words, at right angles to the blade.

Length "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	36877	2	2,05/1049	12

## Corrugating files, pillar R.H.



Pillar right hand corrugating files are made for corrugating the edges of barber's shears and other edged tools. Used by placing the file on the shear blade as close as possible to the pivot point and stroked with a motion forward and to the right, allowing the file to "Track" and form corrugations.

Length "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	40436	2	1,10/737	12

## Crochet files

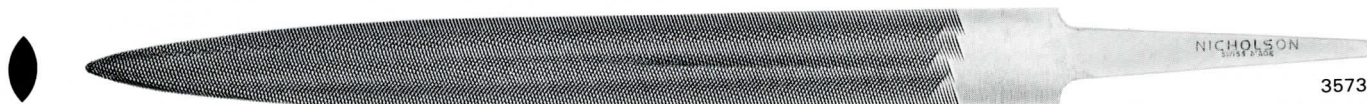


35632

Crochet files are flat with two, well-rounded edges. They taper in both width and thickness. Double-cut on flat sides and both edges.

Length "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	35612	2	0,07/198	12
6/150	35632	0	1,01/482	12
8/200	35660	0	2,07/1106	6
8/200	35668	2	2,07/1814	6

## Crossing files



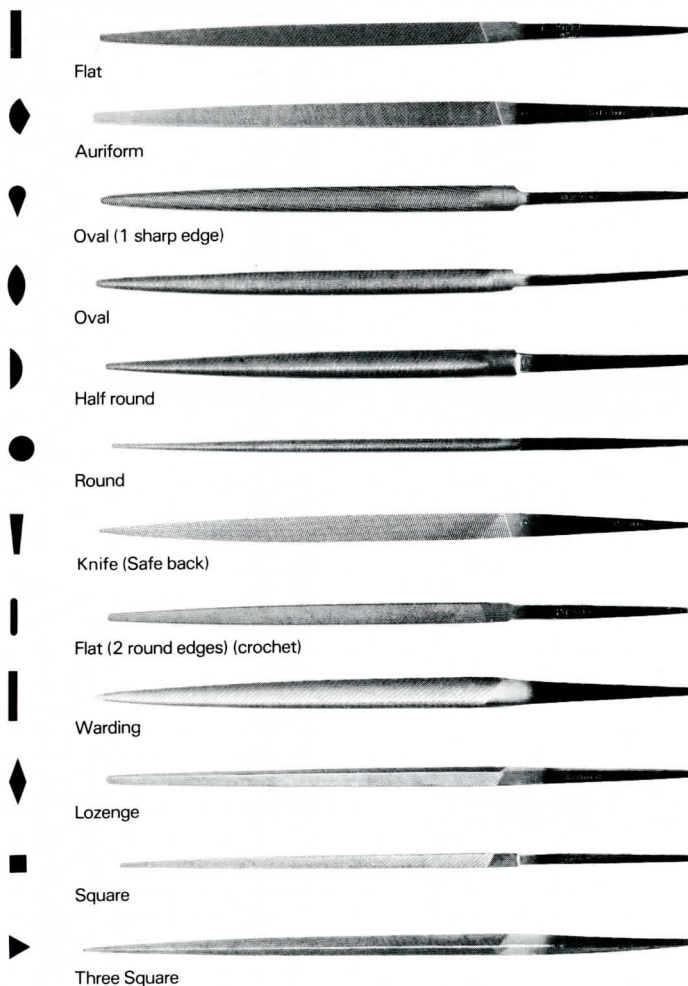
35739

Crossing files are made of double circular section, one side having the same radius as the half file, the other side having a flatter curve or larger radius. Crossing files taper to a point in both width and thickness. Double-cut on both sides.

Length "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	35719	2	0,10/284	12
6/150	35739	0	1,04/567	12
6/150	35748	2	1,04/567	12
8/200	35778	0	4,00/1814	6

## 3½"/89mm Die sinker's files

3½"/89mm long. Designed for use by die sinkers in dressing and finishing dies of all kinds. Made in twelve shapes. Assorted sets of files are now supplied in plastic pouches.

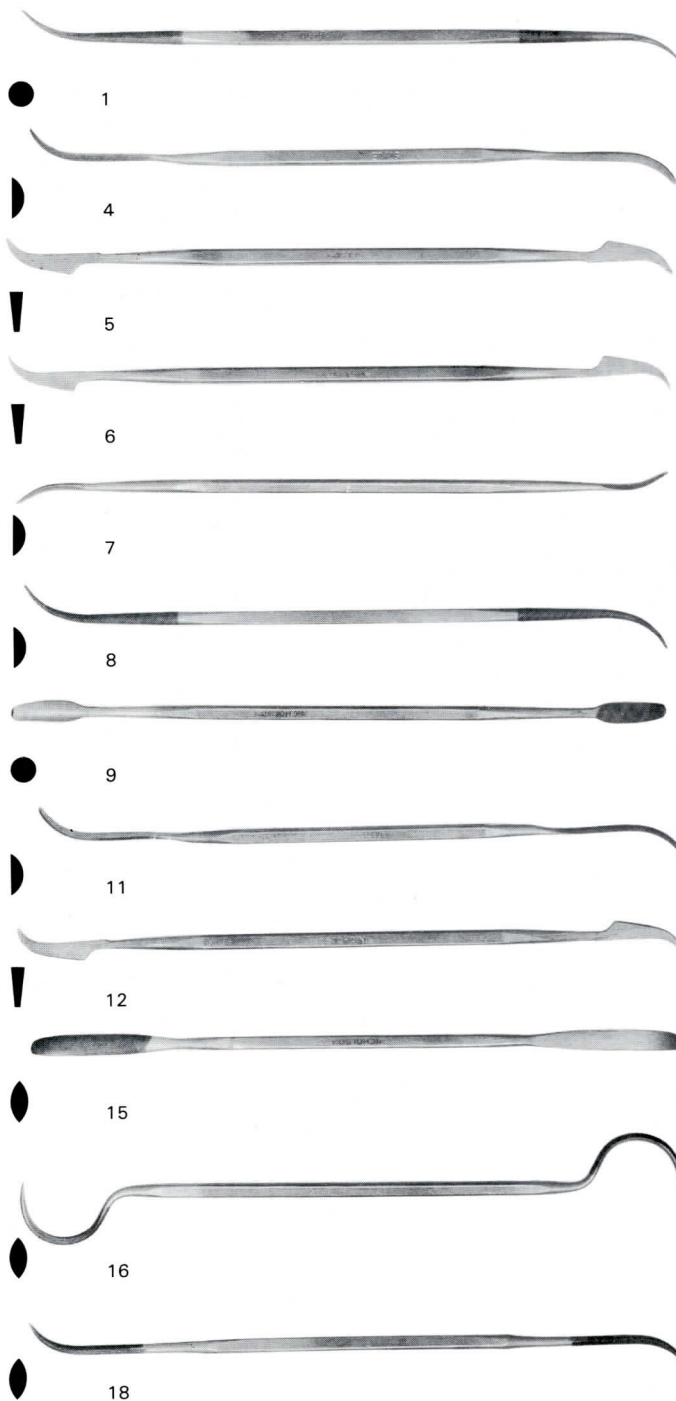


Shape	Size " /mm x " /mm	Cat. /N/S No. /No.	Cut	Wt. per doz. oz/g	Shelf Pack
	Assorted set	35807 35812	0 2	4/113 4/113	12 12
Flat	$\frac{7}{32}/5.55 \times \frac{7}{8}/2.77$	35817 35823	0 2	4/113 4/113	12 12
Auriform	$\frac{1}{8}/6.74 \times \frac{7}{8}/2.77$	35829 35835	0 2	4/113 4/113	12 12
Oval (1 sharp edge)	$\frac{1}{8}/6.74 \times \frac{7}{8}/2.77$	35841 35847	0 2	4/113 4/113	12 12
Oval	$\frac{1}{8}/6.74 \times \frac{7}{8}/2.77$	35853 35859	0 2	4/113 4/113	12 12
Half round	$\frac{1}{8}/6.35 \times \frac{3}{32}/2.38$	35865 35871	0 2	4/113 4/113	12 12
Round	$\frac{1}{8}/3.17$	35877 35883	0 2	3/85 3/85	12 12
Knife (Safe back)	$\frac{1}{8}/6.35 \times \frac{5}{8}/1.98 \times \frac{1}{8}/0.39$	35889 35895	0 2	3/85 3/85	12 12
Flat (2 round edges) (crochet)	$\frac{3}{32}/7.14 \times \frac{7}{8}/2.77$	35901 35907	0 2	5/141 5/141	12 12
Warding	$\frac{1}{8}/5.15 \times \frac{3}{32}/2.38$	35913 35919	0 2	4/113 4/113	12 12
Lozenge	$\frac{1}{8}/5.15 \times \frac{5}{32}/3.96$	35925 35931	0 2	4/113 4/113	12 12
Square	$\frac{1}{8}/3.17$	35937 35943	0 2	3/85 3/85	12 12
Three Square	$\frac{1}{8}/4.44$	35949 35955	0 2	3/85 3/85	12 12



## 6½"/163mm Die sinker's rifflers

Die sinker's rifflers are made in approximately 6½"/165mm lengths and in cuts 0, 2, and 4. Made in shapes as illustrated. Each riffler identified by number. Riffilers may be purchased in any quantity of each shape or in an assortment of one each of these 12 shapes.



Style No.	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g
Assorted	35961	0	0,06/170
Assorted	35966	2	0,06/170
Assorted	35971	4	0,06/170
1	35976	0	0,05/142
1	35982	2	0,05/142
1	35988	4	0,05/142
4	35994	0	0,05/142
4	36000	2	0,05/142
4	36006	4	0,05/142
5	36012	0	0,05/142
5	36018	2	0,05/142
5	36024	4	0,05/142
6	36030	0	0,05/142
6	36036	2	0,05/142
6	36042	4	0,05/142
7	36048	0	0,05/142
7	36054	2	0,05/142
7	36060	4	0,05/142
8	36066	0	0,06/170
8	36072	2	0,06/170
8	36078	4	0,06/170
9	36084	0	0,06/170
9	36090	2	0,06/170
9	36096	4	0,06/170
11	36102	0	0,06/170
11	36108	2	0,06/170
11	36114	4	0,06/170
12	36120	0	0,06/170
12	36126	2	0,06/170
12	36132	4	0,06/170
15	36138	0	0,06/170
15	36144	2	0,06/170
15	36150	4	0,06/170
16	36156	0	0,06/170
16	36162	2	0,06/170
16	36168	4	0,06/170
18	36174	0	0,06/170
18	36180	2	0,06/170
18	36186	4	0,06/170

## Equaling files



36353

Equaling files are parallel in both width and thickness for their entire length. Double-cut on the two sides and single-cut on both edges.

←→ "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	36219	0	0,08/227	12
4/101	36277	2	0,08/227	12
4/101	36233	4	0,08/227	12
6/150	36239	00	1,05/595	12
6/150	36245	0	1,05/595	12
6/150	36253	2	1,05/595	12
8/200	36273	0	3,05/1503	6
8/200	36281	2	3,05/1503	6

Equaling files are also stocked in the following B & S gauges and in cut nos.

←→ "/mm	B & S Gauge	Cat. /N/S No. /No.	Cut No.
4/101	16 (.051")	36301	2
4/101	18 (.040")	36321	2
6/150	12 (.081")	36353	0
6/150	12 (.081")	36359	2

## Half round files



36515

Half round files taper in thickness and width to a point. Double-cut on both flat and half round sides.

←→ "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	36450	00	0,08/227	12
4/101	36456	0	0,08/227	12
4/101	36464	2	0,08/227	12
4/101	36470	3	0,08/227	12
4/101	36476	4	0,08/227	12
5/127	36497	2	0,10/284	12
6/150	36515	00	1,03/539	12
6/150	36521	0	1,03/539	12
6/150	36527	1	1,03/539	12
6/150	36533	2	1,03/539	12
6/150	36539	3	1,03/539	12
6/150	36545	4	1,03/539	12
8/200	36557	00	2,10/1191	6
8/200	36563	0	2,10/1191	6
8/200	36569	1	2,10/1191	6
8/200	36575	2	2,10/1191	6
8/200	36581	3	2,10/1191	6
8/200	36587	4	2,10/1191	6
10/250	36593	00	5,10/2552	6
10/250	36599	0	5,10/2552	6
10/250	36607	2	5,10/2552	6



## Half-round clicking die files



Clicking die files are the same length, kind and cut as regular half-rounds but best suited for work on rule or clicking dies.

←→ "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	36636	0	1,03/539	12
6/150	36648	2	1,03/539	12
6/150	36654	3	1,03/539	12
6/150	36660	4	1,03/539	12

## Hand files



Hand files are parallel in width but taper in thickness. The sides are double-cut. Hand files in cut Nos. 00, 0, 1 and 2 are single-cut on one edge. The other edge is safe. Hand files in cut No. 4 have two safe edges.

←→ "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	36723	2	0,14/397	12
6/150	36737	00	2,05/1049	12
6/150	36743	0	2,05/1049	12
6/150	36749	1	2,05/1049	12
6/150	36755	2	2,05/1049	12
6/150	36767	4	2,05/1049	12
8/200	36779	00	4,09/2070	6
8/200	36785	0	4,09/2070	6
8/200	36791	1	4,09/2070	6
8/200	36797	2	4,09/2070	6
8/200	36805	4	4,09/2070	6
10/250	36823	0	8,00/3629	6

## Knife files



Knife files are made from steel that is knife shaped, the included angle of the sharp edge being approximately 10°. These files taper in width and thickness. Double-cut on both sides. 6"/150mm length is single-cut on back; 4"/102mm and 8"/200mm have safe backs.

←→ "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	36933	00	0,07/198	12
4/101	36939	0	0,07/198	12
4/101	36945	1	0,07/198	12
4/101	36951	2	0,07/198	12
4/101	36957	4	0,07/198	12
6/150	36969	00	1,02/510	12
6/150	36975	0	1,02/510	12
6/150	36981	1	1,02/510	12
6/150	36987	2	1,02/510	12
8/200	37001	00	2,03/992	12
8/200	37007	0	2,03/992	12
8/200	37013	1	2,03/992	12
8/200	37019	2	2,03/992	12

## Joint file – square edge thin



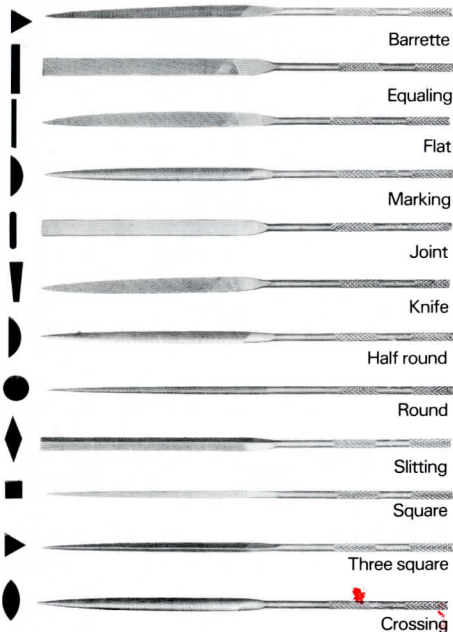
Joint files are parallel in width and thickness and are made with square edges. Double-cut on edges only. Sides are safe.

$\overline{\text{---}} \text{---} \overline{\text{---}}$ "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	36909	1	0,05/142	12

## Needle files

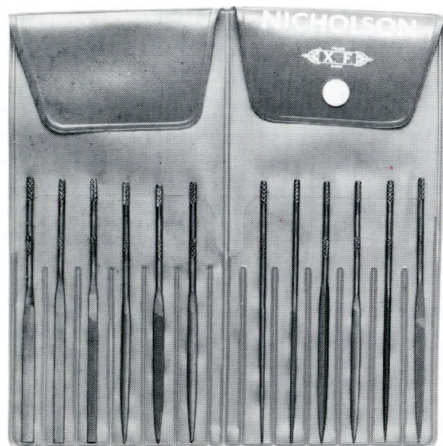
Round handle. Used principally by jewellers, die makers, watchmakers and fine toolmakers. They are made in twelve different shapes as illustrated. In 4"/101mm lengths, oval is furnished instead of crossing.

These files have knurled handles and when purchased in assortments are supplied in plastic pouches which serve as a protective container. All styles packed 12 per box.



Cat. /N/S No. /No.	$\overline{\text{---}} \text{---} \overline{\text{---}}$ "/mm	Shape	Cut
37029	4/101	Assortment	0
37035	4/101	Assortment	2
37277	4/101	Barrette	0
37284	4/101	Barrette	2
37249	4/101	Equaling	0
37256	4/101	Equaling	2
37109	4/101	Flat	0
37116	4/101	Flat	2
37081	4/101	Half round	0
37088	4/101	Half round	2
37305	4/101	Joint (2 round edges)	0
37312	4/101	Joint (2 round edges)	2
37165	4/101	Knife (safe back)	0
37171	4/101	Knife (safe back)	2
37361	4/101	Marking (safe on flat side)	0
37368	4/101	Marking (safe on flat side)	2
37137	4/101	Oval	0
37144	4/101	Oval	2
37053	4/101	Round	0
37060	4/101	Round	2
37333	4/101	Slitting	0
37340	4/101	Slitting	2
37193	4/101	Square	0
37200	4/101	Square	2
37221	4/101	Three square	0
37228	4/101	Three square	2
37392	5 1/2/140	Assortment	0
37398	5 1/2/140	Assortment	2
37404	5 1/2/140	Assortment	4
37640	5 1/2/140	Barrette	0
37647	5 1/2/140	Barrette	2
37654	5 1/2/140	Barrette	4
37500	5 1/2/140	Crossing	0
37507	5 1/2/140	Crossing	2
37514	5 1/2/140	Crossing	4
37612	5 1/2/140	Equaling	0
37619	5 1/2/140	Equaling	2
37626	5 1/2/140	Equaling	4
37472	5 1/2/140	Flat	0
37479	5 1/2/140	Flat	2
37486	5 1/2/140	Flat	4
37444	5 1/2/140	Half round	0
37451	5 1/2/140	Half round	2
37458	5 1/2/140	Half round	4
37668	5 1/2/140	Joint (2 round edges)	0
37675	5 1/2/140	Joint (2 round edges)	2
37682	5 1/2/140	Joint (2 round edges)	4
37528	5 1/2/140	Knife (safe back)	0
37535	5 1/2/140	Knife (safe back)	2
37542	5 1/2/140	Knife (safe back)	4
37724	5 1/2/140	Marking (safe on flat side)	0
37731	5 1/2/140	Marking (safe on flat side)	2
37738	5 1/2/140	Marking (safe on flat side)	4
37416	5 1/2/140	Round	0
37423	5 1/2/140	Round	2
37430	5 1/2/140	Round	4
37696	5 1/2/140	Slitting	0
37703	5 1/2/140	Slitting	2
37710	5 1/2/140	Slitting	4

Cat. /N/S No. /No.	$\overline{\text{---}} \text{---} \overline{\text{---}}$ "/mm	Shape	Cut
37556	5 1/2/140	Square	0
37563	5 1/2/140	Square	2
37570	5 1/2/140	Square	4
37584	5 1/2/140	Three square	0
37591	5 1/2/140	Three square	2
37598	5 1/2/140	Three square	4
37755	6 1/2/159	Assorted	0
37761	6 1/2/159	Assorted	2
37767	6 1/2/159	Assorted	4
37773	6 1/2/159	Assorted	6
38003	6 1/2/159	Barrette	0
38010	6 1/2/159	Barrette	2
38017	6 1/2/159	Barrette	4
38024	6 1/2/159	Barrette	6
37863	6 1/2/159	Crossing	0
37870	6 1/2/159	Crossing	2
37877	6 1/2/159	Crossing	4
37884	6 1/2/159	Crossing	6
37975	6 1/2/159	Equaling	0
37982	6 1/2/159	Equaling	2
37989	6 1/2/159	Equaling	4
37996	6 1/2/159	Equaling	6
37835	6 1/2/159	Flat	0
37842	6 1/2/159	Flat	2
37849	6 1/2/159	Flat	4
37856	6 1/2/159	Flat	6
37807	6 1/2/159	Half round	0
37814	6 1/2/159	Half round	2
37821	6 1/2/159	Half round	4
37828	6 1/2/159	Half round	6
38031	6 1/2/159	Joint (2 round edges)	0
38038	6 1/2/159	Joint (2 round edges)	2
38045	6 1/2/159	Joint (2 round edges)	4
38052	6 1/2/159	Joint (2 round edges)	6
37891	6 1/2/159	Knife (safe back)	0
37898	6 1/2/159	Knife (safe back)	2
37905	6 1/2/159	Knife (safe back)	4
38080	6 1/2/159	Slitting	4
38087	6 1/2/159	Marking (safe on flat side)	0
38094	6 1/2/159	Marking (safe on flat side)	2
38101	6 1/2/159	Marking (safe on flat side)	4
38108	6 1/2/159	Marking (safe on flat side)	6
37779	6 1/2/159	Round	0
37786	6 1/2/159	Round	2
37793	6 1/2/159	Round	4
37800	6 1/2/159	Round	6
38059	6 1/2/159	Slitting	0
38066	6 1/2/159	Slitting	2
38073	6 1/2/159	Slitting	4
38080	6 1/2/159	Slitting	6
37919	6 1/2/159	Square	0
37926	6 1/2/159	Square	2
37933	6 1/2/159	Square	4
37940	6 1/2/159	Square	6
37947	6 1/2/159	Three square	0
37954	6 1/2/159	Three square	2
37961	6 1/2/159	Three square	4
37968	6 1/2/159	Three square	6






## Needle files – round handle Hot die – barrette shape only



38115

Same as regular round handle needle barrette except with thinner points.  $5\frac{1}{2}$ " / 140mm has .039" / 1.0mm point thickness,  $6\frac{1}{4}$ " / 159mm has .044" / 1.10mm thickness.

$\frac{1}{2}$ 	Cat. / N/S No. / No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
" / mm				
$5\frac{1}{2}$ /	37752	0	0,04/113	12
$6\frac{1}{4}$ /	38115	0	0,06/170	12

## 8" / 203 parallel machine files

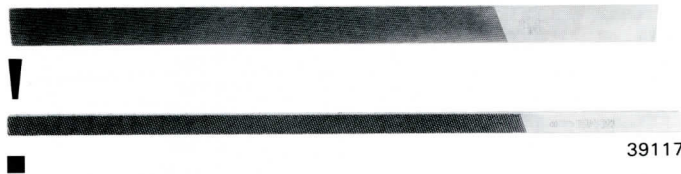
8" / 203mm parallel machine files are made for filing machines of the Oliver, Harvey, Butterfly, Cochrane-Bly types. There are eight different file shapes as illustrated. Cut No. 00. Direction of cutting stroke is towards the shank.



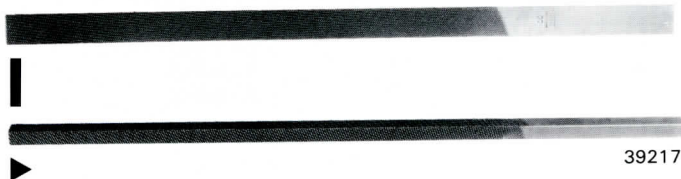
38917



38993



39117



39217

$\frac{1}{2}$ 	Cat. / N/S No. / No.	Wt. per doz. lb., oz/g	Shelf Pack
" / mm x " / mm			

### Round

$\frac{3}{8}$ / 4.76	38917	0,70/318	12
$\frac{1}{2}$ / 6.35	38929	1,20/544	12
$\frac{5}{8}$ / 9.52	38953	2,70/122	12

### Half round

$\frac{1}{2}$ / 6.35 x $\frac{1}{8}$ / 3.17	38993	0,70/318	12
$\frac{5}{8}$ / 9.52 x $\frac{3}{8}$ / 4.76	39005	1,45/658	12

### Knife (safe back)

$\frac{1\frac{1}{2}}{2}$ / 11.90	39093	0,85/386	12
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### Square

$\frac{1}{2}$ / 6.35	39117	1,65/748	12
$\frac{5}{8}$ / 9.52	39129	3,20/1452	12

### Equaling (or warding)

$\frac{5}{8}$ / 9.52 x $\frac{1}{8}$ / 1.58	39205	0,65/295	12
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
### Three Square

$\frac{3}{8}$ / 4.76	39217	0,60/272	12
$\frac{1}{2}$ / 6.35	39229	0,95/431	12
$\frac{5}{8}$ / 9.52	39241	1,85/839	12

## Parallel machine files – special (tension type)

39337


Special parallel machine files (tension type) are made for use in Thiel, Simplex, Excel and index filing machines. Made in cut No. 1 (Bastard).

	Cat. / N/S No. / No.	Cut No.	Style No.
<b>Flat</b>			
6/150	39337	1	7
<b>Half Round</b>			
4/101	39614	1	82
<b>Crochet</b>			
4/101	39741	1	145
4/101	39753	1	146

## Pillar files

39893


Pillar files are similar in shape to hand files but only two-thirds as wide. Double-cut on two sides only. Edges are safe.

	Cat. / N/S No. / No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	39855	00	0,10/284	12
4/101	39861	0	0,10/284	12
4/101	39873	2	0,10/284	12
4/101	39881	4	0,10/284	12
6/150	39893	00	1,10/737	12
6/150	39899	0	1,10/737	12
6/150	39905	1	1,10/737	12
6/150	39911	2	1,10/737	12
6/150	39923	4	1,10/737	12
8/200	39929	00	3,08/1588	6
8/200	39935	0	3,08/1588	6
8/200	39941	1	3,08/1588	6
8/200	39947	2	3,08/1588	6
8/200	39959	4	3,08/1588	6
10/250	39965	00	6,03/2807	6
10/250	39971	0	6,03/2807	6
10/250	39980	2	6,03/2807	6
12/300	39992	00	9,12/2807	6

## Pillar narrow files

40070

Pillar narrow files are similar to Pillar files but are narrower for their length. Double-cut on two sides only. Edges are safe.

	Cat. / N/S No. / No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	40037	0	0,08/227	12
4/101	40049	2	0,08/227	12
6/150	40070	00	1,04/567	12
6/150	40076	0	1,04/567	12
6/150	40082	1	1,04/567	12
6/150	40088	2	1,04/567	12
6/150	40097	4	1,04/567	12
8/200	40109	00	2,10/1191	6
8/200	40115	0	2,10/1191	6
8/200	40121	1	2,10/1191	6
8/200	40127	2	2,10/1191	6
10/250	40141	00	5,03/2353	6
10/250	40147	0	5,03/2353	6



## Pillar extra narrow files



Pillar extra narrow files are similar to Pillar and Pillar narrow files but are narrower for their length. Cut on the two sides only. Edges are safe.

<div> <div>←→</div> <div>"/mm</div> </div>	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	40204	00	0,05/142	12
4/101	40210	0	0,05/142	12
4/101	40222	2	0,05/142	12
6/150	40242	00	0,13/369	12
6/150	40248	0	0,13/369	12
6/150	40254	1	0,13/369	12
6/150	40260	2	0,13/369	12
6/150	40269	4	0,13/369	12
8/200	40281	00	1,15/879	12
8/200	40287	0	1,15/879	12
10/250	40314	00	3,11/1673	12

## Pillar and pillar narrow testing files



These testing files are like our regular product in shape only. They are not made for removal of stock, but are for testing only. They have specially shaped teeth and have been specially treated.

<div> <div>←→</div> <div>"/mm</div> </div>	Description	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
6/150	Pillar Testing	40406	1	1,10/737	12
8/200	Pillar Narrow Testing	40412	0	2,10/1191	6
		40418	1	2,10/1191	6

## Hardness testing with pillar testing files

Before leaving our plant, each file is tested on both sides on a piece of high carbon tool steel that has been hardened and tempered to 375°F (190°C). Each file must bite this piece of steel in good shape. These 375°F (190°C) provers register C63-65 Rockwell and about No. 88 Scleroscope. When files are made to a standard and when it is known just the hardness that a new file will cut, then the file test becomes a real standard test. Since Nicholson testing files are made to such a standard and must be uniform, the file test is the same from day to day. Of course, the file in time will get dull, but good judgment on the part of the workman overcomes this difficulty.

These files are not made for filing off stock; they are just for testing. As soon as the file bites, it should be removed from the work in order to preserve and prolong its biting quality. If it does not bite, the work is too hard for the file. Pieces of steel or samples of the product known to have the proper hardness and temper are often used as gauges for comparison. Our hardness testing files are used to a large extent by manufacturers of taps, drills, bits, reamers, ball bearings, gears, etc.

## Pippin files



Pippin files, sometimes called "Apple Seed" files, have rounded backs which taper to a sharp edge. They also taper to a point in both width and thickness.

<div> <div>←→</div> <div>"/mm</div> </div>	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	40478	0	0,07/198	12
4/101	40486	2	0,07/198	12
6/150	40494	00	1,01/482	12
6/150	40500	0	1,01/482	12
6/150	40506	2	1,01/482	12
8/200	40512	00	1,13/822	12
8/200	40518	0	1,13/822	12
8/200	40524	2	1,13/822	12

## Round files



40645

Round files taper throughout their length to a fine point. Double-cut.

Length "/mm	Dia. "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	$\frac{1}{8}$ " /3mm	40574	00	0,04/113	12
4/101	$\frac{1}{8}$ " /3mm	40580	0	0,04/113	12
4/101	$\frac{1}{8}$ " /3mm	40592	2	0,04/113	12
4/101	$\frac{1}{8}$ " /3mm	40604	4	0,04/113	12
6/150	$\frac{3}{16}$ " /4.76mm	40645	00	0,11/312	12
6/150	$\frac{3}{16}$ " /4.76mm	40651	0	0,11/312	12
6/150	$\frac{3}{16}$ " /4.76mm	40657	1	0,11/312	12
6/150	$\frac{3}{16}$ " /4.76mm	40663	2	0,11/312	12
6/150	$\frac{3}{16}$ " /4.76mm	40675	4	0,11/312	12
8/200	$\frac{1}{4}$ " /6mm	40687	00	1,05/595	12
8/200	$\frac{1}{4}$ " /6mm	40693	0	1,05/595	12
8/200	$\frac{1}{4}$ " /6mm	40699	1	1,05/595	12
8/200	$\frac{1}{4}$ " /6mm	40705	2	1,05/595	12
8/200	$\frac{1}{4}$ " /6mm	40717	4	1,05/595	12
10/250	$\frac{5}{16}$ " /8.3mm	40729	0	2,11/1219	12
10/250	$\frac{5}{16}$ " /8.3mm	40741	2	2,11/1219	12

## Round straight files



Round straight files are made from the same sizes of steel as round files but are parallel throughout their length. Double-cut.

Length "/mm	Dia. "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	$\frac{1}{8}$ " /3mm	40765	0	0,04/113	12
6/150	$\frac{3}{16}$ " /4.76mm	40789	0	0,14/397	12
8/200	$\frac{1}{4}$ " /6mm	40813	0	1,12/794	12

## Screw head files



Screw head files are made for enlarging and cleaning out the slots in the heads of screws. They are made in one style, in one size only and in one cut, and are used principally by watchmakers and jewelers.

Length "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
3/50	40972	0,03/85	12

## Slitting files



41144

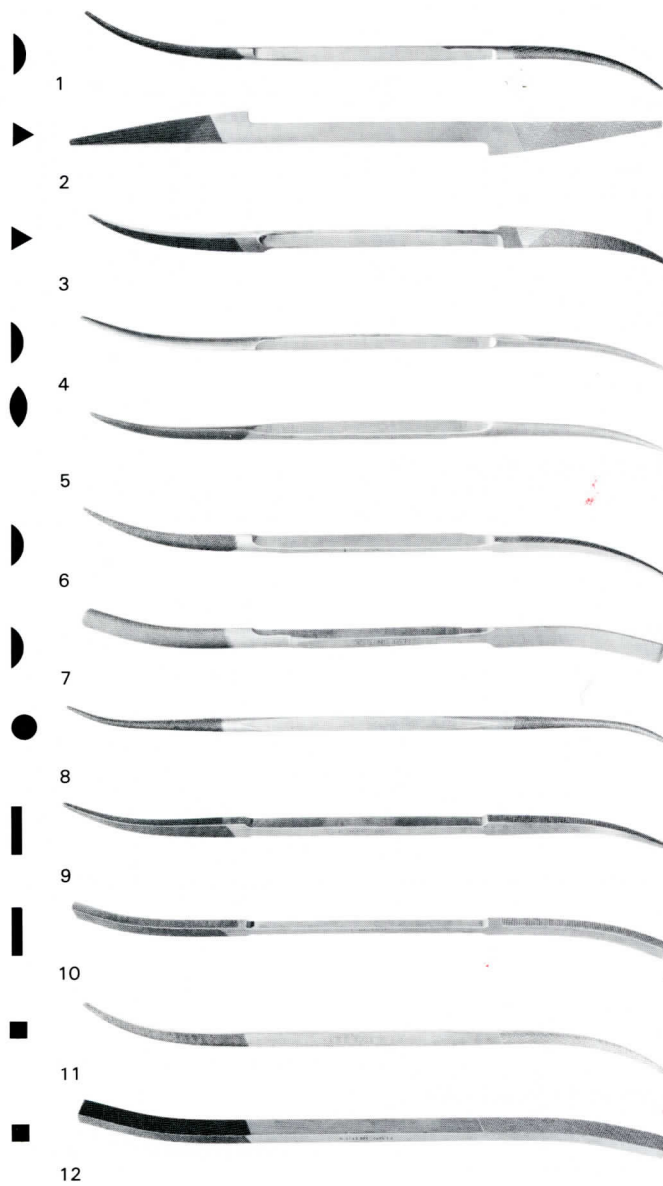
Slitting files are made of double angular section, the included angle between the sides being approximately 18°. Double-cut on the four sides and single-cut on the two sharp edges.

Length "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	41138	2	0,06/170	12
6/150	41144	0	0,14/397	12
6/150	41150	2	0,14/397	12



## 7½"/190mm Silversmith's rifflers

Silversmith's rifflers are made in approximately 7½"/190mm lengths only, in twelve shapes as illustrated. May be purchased in assortments or in any quantity of each shape.



←L→ "/mm	Cat. /N/S No. /No.	Shape	Cut No.	Shelf Pack
7½/190	40978	Assorted	0	12
7½/190	40983	Assorted	2	12
7½/190	40988	1	0	12
7½/190	40994	1	2	12
7½/190	41000	2	0	12
7½/190	41006	2	2	12
7½/190	41012	3	0	12
7½/190	41018	3	2	12
7½/190	41024	4	0	12
7½/190	41030	4	2	12
7½/190	41036	5	0	12
7½/190	41042	5	2	12
7½/190	41048	6	0	12
7½/190	41054	6	2	12
7½/190	41060	7	0	12
7½/190	41066	7	2	12
7½/190	41072	8	0	12
7½/190	41078	8	2	12
7½/190	41084	9	0	12
7½/190	41090	9	2	12
7½/190	41096	10	0	12
7½/190	41102	10	2	12
7½/190	41108	11	0	12
7½/190	41114	11	2	12
7½/190	41120	12	0	12
7½/190	41126	12	2	12

## Square files



41210

Square files are square in section and taper on all four sides to a fine point. Double-cut on all four sides.

<div> <div>←→</div> </div> "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	41184	0	0,04/113	12
4/101	41196	2	0,04/113	12
6/150	41210	00	0,10/284	12
6/150	41216	0	0,10/284	12
6/150	41228	2	0,10/284	12
8/200	41243	00	1,08/680	12
8/200	41249	0	1,08/680	12
8/200	41261	2	1,08/680	12
10/250	41270	00	3,00/1361	12

## Three square files



41480

Three square files are triangular in section with angles of 60°. They taper to a point and have sharp corners. Double-cut on the three sides and single-cut on the edges.

<div> <div>←→</div> </div> "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	41448	00	0,06/170	12
4/101	41454	0	0,06/170	12
4/101	41466	2	0,06/170	12
6/150	41480	00	1,10/737	12
6/150	41486	0	1,10/737	12
6/150	41492	1	1,10/737	12
6/150	41498	2	1,10/737	12
6/150	41506	4	1,10/737	12
8/200	41512	00	2,10/1191	12
8/200	41518	0	2,10/1191	12
8/200	41524	1	2,10/1191	12
8/200	41530	2	2,10/1191	12

## Warding files



41606

Warding files are rectangular in section with thickness approximately one-eighth their width. They taper slightly in thickness and to a point in width.

<div> <div>←→</div> </div> "/mm	Cat. /N/S No. /No.	Cut No.	Wt. per doz. lb., oz/g	Shelf Pack
4/101	41576	00	0,05/142	12
4/101	41582	0	0,05/142	12
4/101	41588	2	0,05/142	12
6/150	41606	00	0,13/369	12
6/150	41612	0	0,13/369	12
6/150	41618	2	0,13/369	12
6/150	41624	4	0,13/369	12
8/200	41636	00	1,10/737	12
8/200	41642	0	1,10/737	12
8/200	41648	2	1,10/737	12

Warding files are also stocked in the following B & S gauges, and in the cut No. shown below.

<div> <div>←→</div> </div> "/mm	Cat. /N/S No. /No.	Cut No.	B & S Gauge	Wt. per doz. lb., oz/g	Shelf Pack
6/150	41775	0	16 B & S Gauge (.051)	0,13/369	12



# Nicholson® Curved Tooth Files

Superior® milled tooth files. Made on newly designed and improved Nicholson machinery, these files are ideally fitted for smooth, rapid work on cast iron, bronze, lead, Babbitt, aluminum, zinc, plastics and any of the steels up to the hardness of commercial annealed tool steel. Tooth profile is scientifically determined for the right pitch and rake to avoid pinning up and to give the smoothest finish.

## Flexible files(without tang)



20046

←→ "/mm	Cat /N/S No /No.	No. of Teeth per inch/cut	Wt. per doz. lb., oz/g	Shelf Pack
8/200	20046	14/Standard	2,09/1162	12
10/250	20089	12/Standard	3,15/1786	12
12/300	20138	10/Standard	5,08/2495	6
14/350	20189	8/Standard	7,01/3204	6
14/350	20205	12/Fine	7,01/3204	6
14/350	20222	15/Smooth	7,01/3204	6

## Milled tooth bodifiles



21320

Cut	Cat /N/S No /No.	No. of Teeth per inch	Wt. per doz. lb., oz/g	Shelf Pack
50-907	21320	7	7,01/3204	6
50-908	20189	8	7,01/3204	6
50-910	21348	10 Radius edges	7,01/3204	6
50-912	21361	12 Radius edges	7,01/3204	6

## Flat Files-rigid type(with tang)



20239

←→ "/mm	Cat /N/S No /No.	No. of Teeth per inch/cut	Wt. per doz. lb., oz/g	Shelf Pack
8/200	20239	14/Standard	2,12/1247	12
10/250	20291	12/Standard	5,14/2665	6
12/300	20342	10/Standard	9,05/4224	6
14/350	20393	8/Standard	14,14/6747	6

## Flat Babbitt files



20479


Exactly like flat files in shape, dimension and weight, but fewer teeth per inch.

←→ "/mm	Cat /N/S No /No.	No. of Teeth per inch	Wt. per doz. lb., oz/g	Shelf Pack
12/300	20479	8	9,04/4196	6
14/350	20496	7	14,12/6691	6

## Flat utility files




Like flat files in general appearance. Standard cut teeth on one side, smooth cut teeth on the other.

 /mm	Cat. /N/S No. /No.	No. of Teeth per inch	Wt. per doz. lb., oz/g	Shelf Pack
12/300	20547	10 and 16	10,03/4621	6
14/350	20564	8 and 15	16,13/7626	6

## Half round files



Flat on one side, convex on the other. Particularly adapted for bearings and concave surfaces.


 /mm	Cat. /N/S No. /No.	No. of Teeth per inch/cut	Wt. per doz. lb., oz/g	Shelf Pack
8/200	20582	14/Standard	3,08/1588	12
10/250	20624	12/Standard	6,05/2863	6
12/300	20667	10/Standard	11,05/5131	6
14/350	20703	9/Standard	17,09/7966	6

## Super shear<sup>®</sup>

A double purpose milled curved tooth file—new and different and exclusive with Nicholson<sup>®</sup>. A curved tooth file that smooths as it roughs.

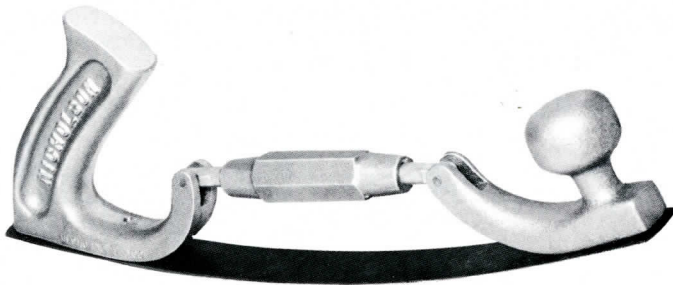


The curved teeth of the Nicholson super shear are cut in an arc that is "off center" in relation to the axis of the file. This permits the teeth to begin with wide gullets and a right angle—for fast cutting. The Nicholson super shear file (patented) is a distinctively new "double purpose" milled tooth file for wide industrial usage on the flat and convex surfaces of aluminum, brass, Babbitt, bronze, copper, magnesium, and iron, annealed steel and soft metal alloys, on plastics, hard rubber and hardwood.

 /mm	Cat. /N/S No. /No.	No. of Teeth per inch/cut	Wt. per doz. lb., oz/g	Shelf Pack
8/200	21016	14/Standard	2,12/1247	12
10/250	21067	12/Standard	5,14/2665	6
12/300	21118	10/Standard	9,05/4224	6
14/350	21169	14/Standard	17,00/7711	6



## Miscellaneous Nicholson® Tools: Adjustable flexible file holder No. 25



Can be used with either 12" or 14" Files and is easily adjusted for curving the file either outward or inward.

No.	Cat /N/S No. /No	Wt. per doz. lb., oz/g	Shelf Pack
25	21272	2,00/907	1

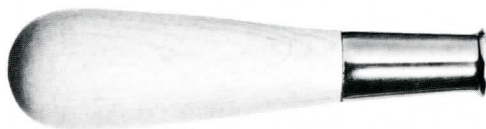
## Machinist's scrapers(handled)



Note that the three square shape is supplied in hollow ground with 60° angle. Overall length of these tools including handle is approximately 8". Packed one-half dozen in box.

Cat /N/S No. /No	Length Overall "/mm	Dimensions "/mm x "/mm	Wt. per doz. lb., oz/g	Shelf Pack
21667	8/200	3 $\frac{1}{2}$ /82mm x $\frac{3}{8}$ /10mm	1,14 /851	12

## Metal ferruled handles



These handles have very strong metal ferrules. Made from seasoned white birch with nickel plated ferrules. Shellac finish.

No.	Cat /N/S No. /No	Approximate size "/mm x "/mm	Wt. per doz. lb., oz/g	Shelf Pack
0	21476	5 $\frac{1}{2}$ /133 x 1 $\frac{1}{2}$ /38	2,00/907	12
1	21485	4 $\frac{3}{4}$ /124 x 1 $\frac{1}{8}$ /33	1,10/737	12
2	21494	4 $\frac{1}{2}$ /114 x 1 $\frac{3}{8}$ /30	1,04/567	12
3	21503	4 $\frac{1}{8}$ /105 x 1 $\frac{1}{8}$ /27	1,00/454	12
4	21511	3 $\frac{3}{4}$ /95 x $\frac{1}{8}$ /24	0,12/340	12

Sizes of handles recommended for some of the more common files:

	"/mm	"/mm	"/mm	"/mm	"/mm	"/mm
Description	6/150	7/178	8/200	10/250	12/300	14/254
Flat, Half Round hand	3	—	2	1	0	0
Square, round	4	—	3	2	1	1
Three square	3	—	2	1	0	—
Pillar	2	—	1	0	0	—
Warding, knife	2	—	2	1	—	—
Mill	3	3	2	1	0	0
Slim, taper	4	2	2	1	—	—
Extra slim taper	4	4	3	—	—	—
Double extra slim taper	4	4	4	—	—	—

## Bent rifflers (handled)



Three square bastard



Half round bastard



Hand bastard



Three square rasp



Flat float safe sides



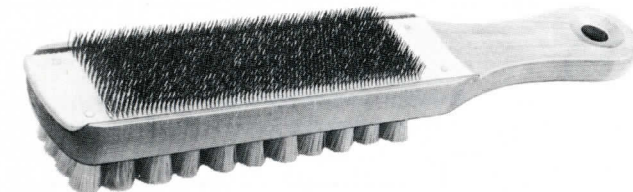
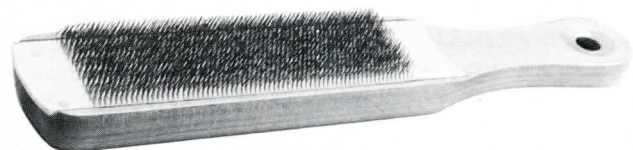
Round rasp

Used principally by woodcarvers, metal and stone workers for shaping and finishing in and about the many irregular places of pattern work. Made in six different shapes and styles of cuts. Overall length of tools, including handle, is approximately 7 $\frac{3}{4}$  inches. Available in assortments of 6 only.

### Assortment of 6

Length " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
7 $\frac{3}{4}$ /197	21450	0,84/382	6

## File cleaners



Nicholson® makes file cleaners in two styles—the file card for general cleaning of file teeth and the file brush especially for use on the finer cut files. Overall length of each type cleaner is 10".

### File Card

Length " /mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
10/250	21458	3,11/1673	12

### File Brush

10/250	21467	5,00/2268	6
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## Butcher steel



Deluxe sharpening steel suitable for displaying with the finest cutlery. Walnut-stained hardwood handle, chrome plated solid ring and guard. Threaded tang and serrated teeth. Steel magnetized to collect chips.

Code No.	Cat. /N/S No. /No.	Length " /mm x " /mm	Wt. per doz. lb., oz/g	Shelf Pack
7A	23333	12/300 x $\frac{5}{8}$ /16	14,00/6350	6
8A	23392	14/350 x $\frac{5}{8}$ /16	15,08/7031	6

## Household steel



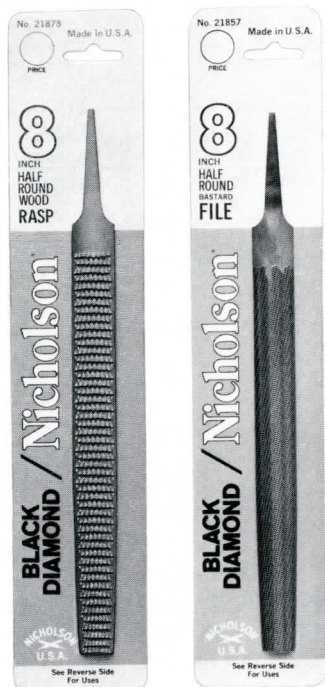
Economy household steel for general kitchen use. A serrated cut, magnetized steel and cadmium plated fuse and guard. Screw eye in end of handle.

Code No.	Cat. /N/S No. /No.	Length " /mm x " /mm	Wt. per doz. lb., oz/g	Shelf Pack
45	23769	10/250 x $\frac{3}{8}$ /10	4,05/1956	6



## Nicholson® carded files

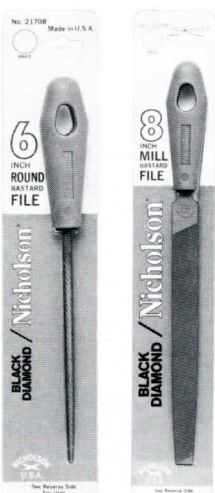
### Carded files without handle



Description " /mm x " /mm	Cat. /N/S No. /No.	Pack	Wt. per Shelf Pk. lb., oz/g
6/150 Mill Bastard	21825	6	1,5/595
8/200 Mill Bastard	21832	6	2,1/936
10/250 Mill Bastard	21839	6	3,8/1588
12/300 Mill Bastard	21842	6	5,1/2296
6/150 Round Bastard	21846	6	0,15/425
8/200 Round Bastard	21853	6	1,5/595
10/250 Round Bastard	21854	6	2,1/936
8/200 4-in-Hand	21860	6	2,1/936
6/150 Slim Taper	21866	6	1,5/595
6/150 Flat Bastard	21867	6	1,5/595
6/150 X Slim Taper	21873	6	1,3/539
6/150 XX Slim Taper	21874	6	0,15/425
8/200 Flat Bastard	21862	6	2,7/1106
8/200 Half Round Bastard	21857	6	2,1/936
10/250 Flat Bastard	21868	6	3,9/1616
10/250 Half Round Bastard	21858	6	3,9/1616
8/200 Half Round Wood Rasp	21878	6	2,1/936
8/200 x 1/6 Round Chainsaw File	01974	6	2,3/992
8/200 x 3/5 Round Chainsaw File	01888	6	2,0/907
8/200 x 3/8 Round Chainsaw File	01765	6	1,13/822
6/150 x 3/8 Round Chainsaw File	01630	6	1,3/539
6/150 x 1/3 Round Chainsaw File	01590	6	1,0/454

Modular displays are available for these files. Please see page 87.

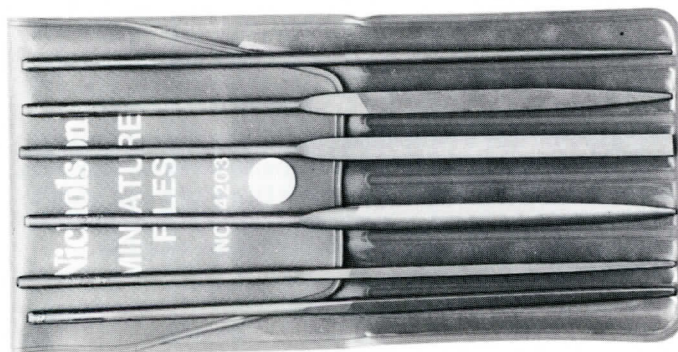
### Carded Files with handle



Description " /mm	Cat. /N/S No. /No.	Pack	Wt. per Shelf Pk. lb., oz/g
6/150 Mill Bastard	21687	6	1,2/510
8/200 Mill Bastard	21694	6	2,0/907
10/250 Mill Bastard	21701	6	3,14/1758
6/150 Round Bastard	21708	6	1,0/454
8/200 Round Bastard	21715	6	1,6/624
10/250 Round Bastard	21720	6	2,13/1276
6/150 Slim Taper	21729	6	1,1/482
6/150 X Slim Taper	21736	6	0,15/425
6/150 XX Slim Taper	21743	6	0,12/340
8/200 Half Round Bastard	21745	6	2,7/1106
10/250 Half Round Bastard	21746	6	3,15/1786
8/200 Flat Bastard	21748	6	2,1/936
8/200 Half Round Wood Rasp	21749	6	2,1/936

Modular displays are available for these files. Please see page 87.

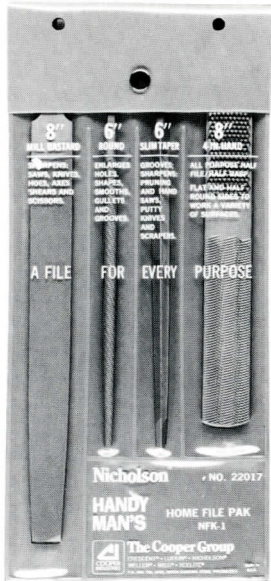
### Mini files



A selection of 6 miniature files with a fine cut for intricate work. Available either separately or all 6 in a handy vinyl case vacuum-packed on hang-up card.

Description	Cat. /N/S No. /No.	Wt. per shelf pk. lb., oz/g	Shelf Pack
Equaling	42001	5 1/2/140	12
Half round	42010	5 1/2/140	12
Flat	42005	5 1/2/140	12
Round	42015	5 1/2/140	12
Square	42020	5 1/2/140	12
Three square	42025	5 1/2/140	12
Assorted	42030	5 1/2/140	3

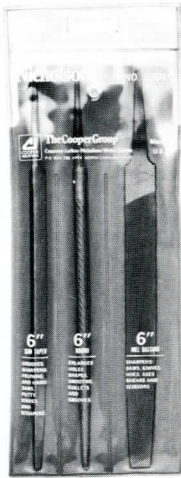
Handy man's home file pack



For home and professional use, this handy file pack contains a file for every home purpose. 8"/200mm Mill Bastard, 8"/200mm four-in-hand, 6"/150mm Slim Taper and 6"/150mm Round Bastard. The convenient plastic pouch lists suggested uses for each file. Pack measures 5" / 125mm and 11 1/8" / 293mm with hang hole.

Contents			
Description "/mm	Cat. /N/S No. /No.	Weight lb., oz/g	Shelf Pack
8/200 Mill Bastard, 6/150 Round Bastard, 8/200 4-in-hand, 6/150 Slim taper, pouch.	22017	4,8/2041	5

3 file pack



For home and professional use, this 3 file pack contains a file for every purpose 6"/150mm Slim Taper, 6"/150mm Round File, 6"/150mm Mill Bastard. The plastic pouch lists suggested uses for each file. Pack measures 3 1/2" / 88mm x 9 1/2" / 237mm with hang hole.

Contents			
Description "/mm	Cat. /N/S No. /No.	Weight lb., oz/g	Shelf Pack
6/150 Slim Taper, 6/150 Round File, 6/150 Mill Bastard, Pouch.	22015	0,4 1/2/128	5

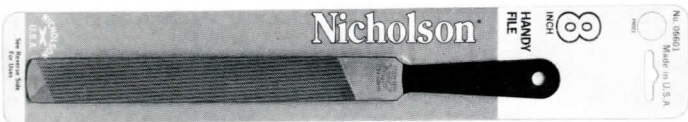
Home and garden file



Sharpens knives, scissors and garden tools. Sharpens rotary mower blades to knife-like edge and smooths nicks that tear grass. Files come skin-packed for pegboard display. Shipped in its own corrugated merchandisers for retail display. Available carded only.

Size "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
10/250	11488	4,8/204	12

Handy file



This gives the user a combination file, single-cut on one side for sharpening edged tools and smoothing metal surfaces, double-cut on other side for rapid removal of metal. One edge is "cut" and the other is "safe" or "uncut." Convenient "hang up" hole. (Skin packed). Length measured exclusive of handle. Available carded only.

Size "/mm	Cat. /N/S No. /No.	Wt. per doz. lb., oz/g	Shelf Pack
8/200	06601	5,10/2552	6



## Carded chainsaw file guide with file and handle



First chainsaw file guide that's so simple to use it can turn almost anyone into an expert. Features filing angle indicator and flat guide edge that positions just the right angle and depth of each file stroke. Lightweight yet corrosion proof and extra durable because it's made of nylon which acts as a lubricant to insure a free-sliding stroke. The  $\frac{3}{8}$ " / 4.7mm,  $\frac{7}{8}$ " / 5.5mm, and  $\frac{1}{2}$ " / 6mm files can be used interchangeably on the 8" / 200mm guide and the  $\frac{1}{8}$ " / 3mm and  $\frac{5}{8}$ " / 4mm files can be used interchangeably on the 6" / 150mm guide. Available in 6" / 150mm and 8" / 200mm models designed to accommodate the five most popular diameters of round chainsaw files.



Length "/mm x "/mm	Description	Cat. /N/S No. /No.	Wt. per Shelf Pk. lb., oz/g	Shelf Pack
8/200 x $\frac{1}{2}$ /6	Chainsaw File Guide	82001	2,3/992	4
8/200 x $\frac{7}{8}$ /5.5	Chainsaw File Guide	82002	2,0/907	4
8/200 x $\frac{3}{8}$ /4.7	Chainsaw File Guide	82003	1,13/882	4
6/150 x $\frac{5}{8}$ /4	Chainsaw File Guide	82004	1,3/539	4
6/150 x $\frac{1}{8}$ /3	Chainsaw File Guide	82005	1,0/454	4

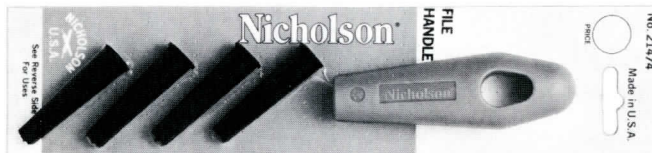
## Three-in-one depth gauge



Used for filing and maintaining proper depth gauge clearance.

Item	Cat. /N/S No. /No.	Wt. per Shelf Pk. lb., oz/g	Shelf Pack
3-in-1 Depth Gauge	82008	2,4/1021	6

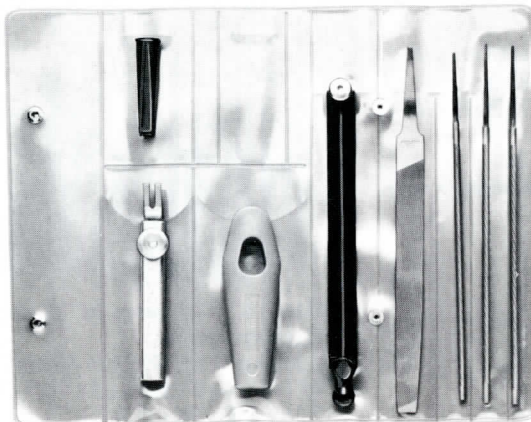
## Carded file handle



Description	Cat. /N/S No. /No.	Wt. per Shelf Pk. lb., oz/g	Shelf Pack
Carded file handle and inserts	21474	—	6

## Chainsaw sharpening kits

**New!**



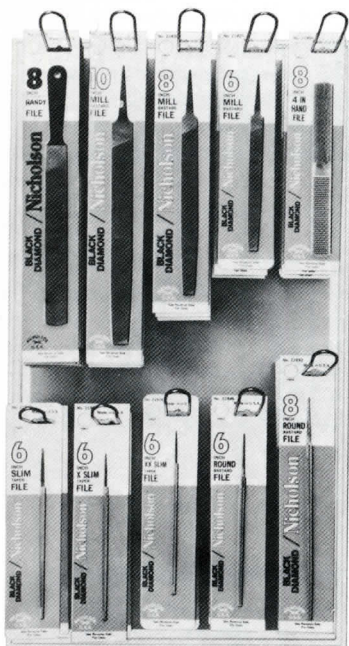
New kit, available in 3 sizes for  $\frac{7}{8}$ " / 5.5mm,  $\frac{5}{8}$ " / 4mm and  $\frac{1}{8}$ " / 3mm cutters.

Kit includes 3 round files for sharpening cutters; mill bastard file for planing depth gauge; the file guide to ensure correct angle and depth of filing; handle and inserts for all files and depth gauge tool. Handy carrying wallet.

Cat. /N/S No. /No.	Size "/mm	Wt. per Shelf Pk. lb., oz/g	Shelf Pack
21751	$\frac{7}{8}$ " / 5.5		6
21752	$\frac{5}{8}$ " / 4		6
21753	$\frac{1}{8}$ " / 3		6



## Nicholson® Modules TW-20 (21848) File Module



Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 21 lb / 9.52 kg  
Contains: Six (6) Each 21825, 21832, 21839, 21846, 21853, 21860, 21866, 21873, 21874, 06601  
TW-20A (21849) refill assortment only.

## TW-21 (21850) File Module



Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 29 lb / 13.15 kg  
Contains: Six (6) Each 21687, 21694, 21701, 21708, 21715, 21860, 21729, 21736, 21745, 06601  
TW-21A (21851) refill assortment only.

## TW-22 (21855) File Module



Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 26 lb / 11.79 kg  
Contains: Three (3) Each 22017  
Six (6) Each 21842, 21854, 21857, 21858, 21862, 21878, 21474  
TW-22A (21856) refill assortment only.

## TW-23 (01655) Chainsaw File Module



Size: 16" / 400mm x 16" / 400mm (B)  
Shipping weight: 9 lb / 4.08 kg  
Contains: Three (3) Each 01765, 82002, 82003, 82004  
Six (6) Each 01888, 01630  
TW-23A (01656) refill assortment only.

## TW-102 (21844) File Module



Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 15 lb / 6.80 kg  
Contains: Three (3) Each 11491, 21860, 21694, 21687, 21701, 21729, 21736, 21743, 21715, 21708  
TW-102A (21845) refill assortment only.

## TW-206 (21865) Nicholson Hobby File Module



Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight:  
Contains: Two (2) Each 42001, 42005, 42010, 42015, 42020, 42025, 21825, 21846, 21866, 22015  
Four (4) Each 42030  
TW-206A (21871) refill assortment only.



# Nicholson® Rotary Files and Burs

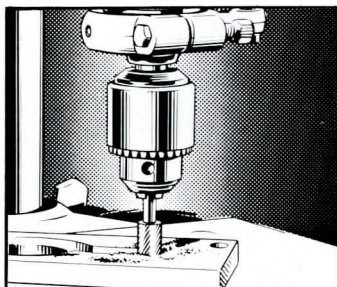
## Facts about Rotary Power Filing

If you are considering power filing as a method of abrading or smoothing metal—and it's a mighty fine method for certain jobs—you have a choice of hand cut rotary files or ground from solid burs—the latter type made either from high speed steel or carbide. The purpose of this section is to discuss their uses, explain their anatomy, analyze their advantages and warn you against their limitations; to suggest the best methods of using these power tools; and to recommend appropriate speeds at which they can be operated.

First let's consider the general applications of these power driven hand tools throughout industry.

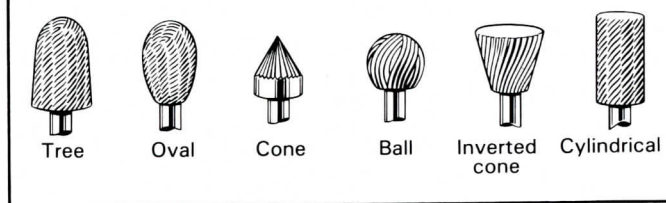
Both types—rotary files and ground burs (high speed and carbide)—are widely used in die sinking, metal pattern making, mold finishing, tool making and finishing small and intricate parts. In such work they are used for breaking and chamfering corners, removing burs and fins; for elongating holes and slots and other hard to get at places. Name almost any metalworking plant and you find a potential field for power filing.

The aircraft industry uses burs on aluminum, titanium and magnesium, frequently finding the "Tree Shapes" with tapered points or rounded noses suitable for its particular applications, and the oval shapes equally valuable. If you visit a machine tool manufacturer you'll probably discover power files at work on such jobs as "balancing" cast-iron pulleys. Makers of fire fighting equipment touch up such parts as brass nozzles, prior to polishing.



Cylindrical burr in drill press deburring cut-out area of plate.

### Styles for every purpose



In pattern shops, the ball shape forms fillets of metal match plates and removes burs in drilled holes, especially on concave or convex surfaces. The inverted cone shape is just right to get at the corners of sheet metal boxes where the excess metal is to be removed. This, of course, is only a partial list of suggested applications which would run into hundreds. In using rotary files and ground burs instead of abrasive stones and grindstone tips, the filer has the advantage of greater speed and the knowledge that his tools will not clog or grime up, shatter or break.

### Anatomy

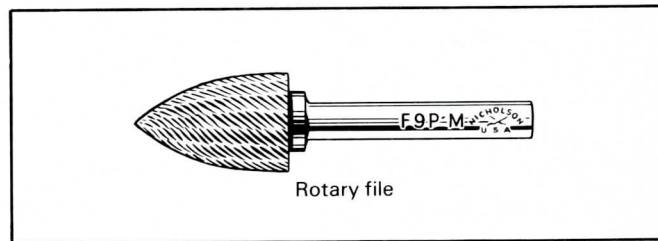
Rotary files and burs may be defined as power tools, used with flexible shaft or stationary shaft machines, portable electric or air tools, with teeth or flutes cut or ground on the surface and used for abrading and smoothing metals and other materials.

Expanding this definition, we find that the business end of the tool is the "head" or "cut section" and that these heads come in a variety of shapes from the cylindrical to the tree shaped, ball and inverted cone. Length usually refers to head or cut section. Tip is called the point or nose depending on whether it is rounded or pointed. The part of the head from which the shank extends is called the "base" or the "heel". The teeth or flutes generally come in two degrees of coarseness, i.e., coarse (C) and medium (M)—the choice depending on the amount of stock to be removed and the finish desired. Shanks are usually  $\frac{1}{4}$ " in diameter on files and burs used for heavy and medium jobs,  $\frac{1}{8}$ " when the tool is designed for use on relatively delicate operations.

### Hand Cut Versus Ground from Solid

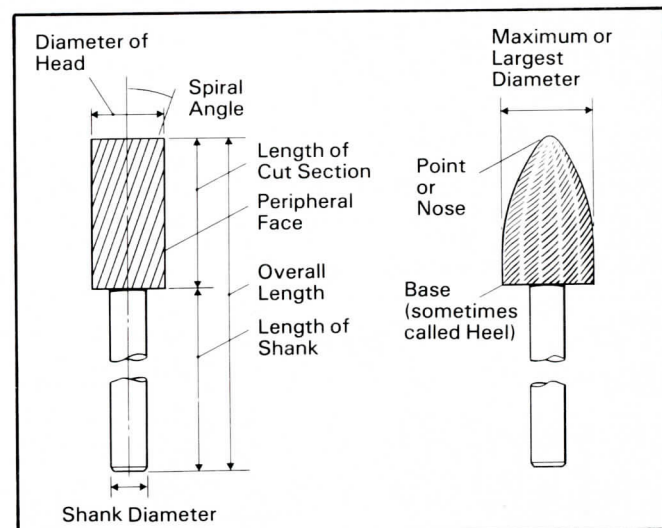
We now start to appraise the differences between the hand cut and ground, each made from high speed steel.

As their name indicates, hand cut rotary files are cut by an expert hand-cutter, using a hammer and a chisel to cut or form each tooth. Although he may have a blueprint to guide him, the hand-cutter depends upon his ability to hold the chisel at just the correct angle and to strike a blow of just the right force.



Rotary file

Because the teeth of hand cut rotary files are "broken up," in contrast to the "unbroken flutes" of the ground burr, they are better fitted for work on tough and dense metals. These teeth seem to dissipate the heat created by the friction of the file on this type of material. Therefore they are recommended for steel forgings, or any scaly tough dense surface or metal.



## Ground Burs

Ground burs are cut with a series of unbroken flutes instead of the "broken up" teeth characteristic of hand cut files. Basic flutes extend the full length of the cutting head, from the base to the nose, and intermediate flutes cut into the basic flutes at appropriate places. Some ground burs are made with "alternate fluting," which means that every other flute extends to the extreme point of the tool.

The flutes of the ground burr are cut by an operator using a grinding wheel. While a "free hand" method of grinding is quite common, the Nicholson method calls for precision machine grinding which insures accuracy of shape and even tooth height around the periphery, the latter feature eliminating jumping, vibration and non-uniform wear. Each burr is cut on a machine actuated by a master burr guaranteeing absolute uniformity of burs of the same type and size, no matter how many are produced.

In general, ground burs are much more efficient than hand cut rotary files on non-ferrous metals such as aluminum, brass, bronze and magnesium. Because of the ductility to these metals, burs are ideal cutting tools, since their ground teeth free themselves readily of chips.

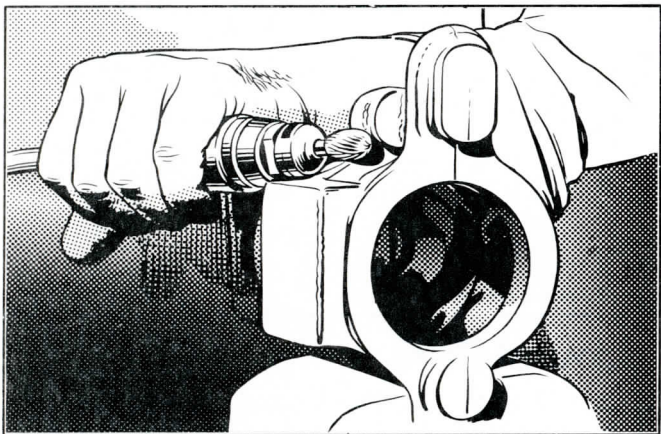
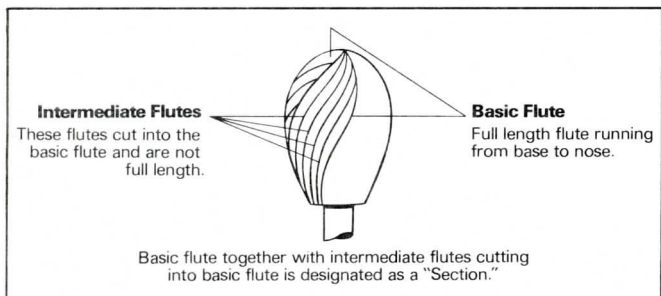
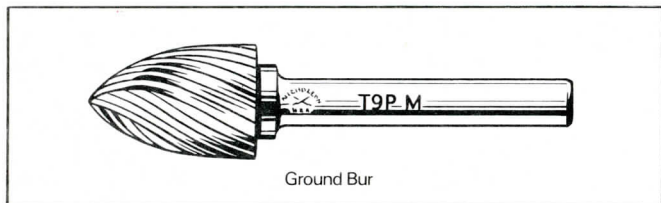
### Tips on Using Files and Burs

Rotary files and ground burs can be used in drill presses, lathes and electrically or air-operated hand or flexible shaft equipment. There is very little difference in the efficiency of files or burs in electric tools as compared to air tools, providing that the speeds have been reasonably well selected. The choice between electric and air tools is usually determined by the equipment which is available in a given plant.



The following principles should help the user toward the best results:

- A**—Move the file or bur at an even rate and pressure to avoid the “hills and dales” which will show up if an unsteady pressure is applied.
- B**—The speed at which the bur can be driven depends to a great extent on the size of the bur. The smaller the bur, the faster the speed. (see chart).
- C**—Be sure to use sharp files or burs. Never overlook the fact that the operator’s time is the big cost item and he needs well sharpened tools.
- D**—Use a short grip on the shank for accurate control and a longer grip for reaching the out-of-the-way places.
- E**—Normally, medium cut files or burs will give sufficient stock removal and acceptable finish to meet most needs. However, if heavier cutting or greater stock removal is required, coarse cut should be used.



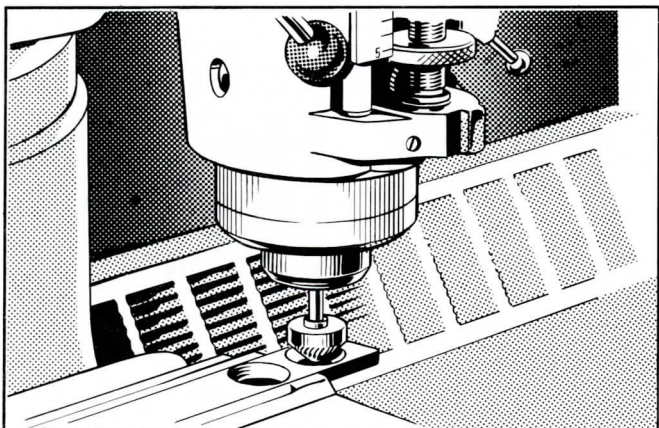
An oval shaped bur smoothing edges of concave section. Flexible shaft machine is used.

### How about Speeds

It is extremely difficult to give the correct recommendations because the speed is bound to vary with the skill and technique of the operator; the type of power which is being used; the material which is being removed or finished; the type of operation—finishing stock removal, etc. A certain amount of flexibility is obtained in that higher speeds than normal tend towards a better finish but less stock removal while slower than normal speeds give greater stock removal but a poorer finish. The table below is given in revolutions per minute rather than in surface feet per minute because the former are more conveniently used. It is very important, however, that any table of speeds should specify the diameter of the bur which is to be used at the recommended speed, because the surface feet per minute is the basis of calculation. Undoubtedly many instances can be cited in which burs have been used successfully at speeds much higher than those in our table. The best way is to determine from experience what speeds will give the most satisfactory results on a particular job. It should also be borne in mind that flexible shaft machines have a limited number of speeds and that these govern to a considerable extent the revolutions per minute which can be used.

### Approximate Speeds (R.P.M.) For High Speed Steel Rotary Files and Burs in Medium Cut

Head Dia.	Mild Steel	Cast Iron	Bronze	Aluminum	Magnesium
$\frac{1}{8}$ " / 3mm	4600	7000	15000	20000	30000
$\frac{1}{4}$ " / 6mm	3450	5250	11250	15000	22500
$\frac{3}{8}$ " / 10mm	2750	4200	9000	12000	18000
$\frac{1}{2}$ " / 13mm	2300	3500	7500	10000	15000
$\frac{5}{8}$ " / 16mm	2000	3100	6650	8900	13350
$\frac{3}{4}$ " / 19mm	1900	2900	6200	8300	12400
$\frac{7}{8}$ " / 22mm	1700	2600	5600	7500	11250
1" / 25mm	1600	2400	5150	6850	10300
1 $\frac{1}{4}$ " / 29mm	1500	2300	4850	6500	9750
1 $\frac{1}{2}$ " / 32mm	1400	2100	4500	6000	9000



Cone shaped bur in drill press deburring drilled holes in plate.

### Summing It Up



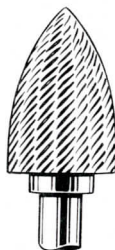
#### Carbide Bur

The carbide bur can do any job that the high speed ground bur or the hand cut rotary file can do. However, it is most efficient on the long production runs.



#### High Speed Ground Bur

The high speed ground bur is used principally on the non-ferrous metals and other soft materials.



#### Hand Cut Rotary File

The hand cut rotary file is used primarily on the ferrous metals and other hard materials.



# Nicholson® Carbide Burs

The carbide bur is one of the most recent developments among modern cutting tools. It has tremendous possibilities for reducing burring costs in its particular applications, foremost of which is likely to be found on long production runs.

For example, it has been demonstrated that a carbide bur will last up to one hundred times as long as a high speed steel bur of corresponding shape and size. On the other hand, it costs about five times more. Assuming that the production life of the carbide bur is seventy-five times greater and the cost five more, there is a ratio of fifteen to one in its favor. And there are other factors.

The carbide bur may be used on hard or soft materials with equally good results. Made of extremely hard material, the flutes of the carbide bur will retain their maximum cutting efficiency a great deal longer than those made of high speed steel, thus eliminating change-over costs. A skillful operator, especially if he is working on a piece or bonus system, appreciates the fact that his tool is working at full efficiency and has not reduced his earning power because it is partly worn out—although not sufficiently worn to be discarded.

## Anatomy

The anatomy of the carbide bur is much the same as that of the high speed bur, the principal difference lying in the fact that the former is made of carbide. Of course, the rake and coarseness of teeth are changed somewhat to conform to the peculiarities of carbide, the negative rake rather than the radial producing a construction of the greatest strength.

Most carbide burs have index fluting, meaning that all flutes converge to a common point.

Diamond cut carbide burs are recommended for tough die steels. These "double-cut" burs have flutes that intersect each other. These throw off small, irregular particles, rather than sharp pointed slivers.

The carbide used in these burs has the highest Rockwell Hardness consistent with necessary toughness. While every effort is made to combine hardness and toughness, carbide burs are nevertheless relatively brittle and must be treated more gingerly than ordinary burs. They cannot stand as much abuse. Under no circumstances must they be tossed onto a bench or into a tool box where their cutting edges may be damaged.

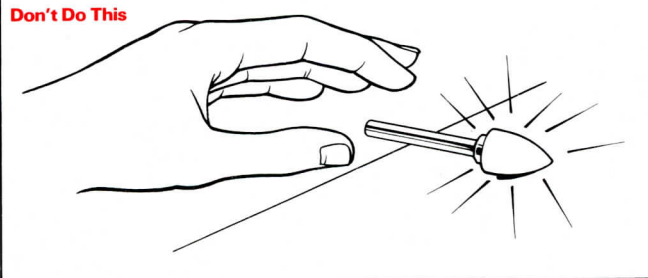
Remember that if one carbide bur is injured, the loss is about fifteen times as great as that of a high speed bur—and savings are greatly reduced.

## Coarseness Chart

Rotary Files			Ground Burs H.S.		
Dia. "/mm	Teeth Per Inch Coarse	Medium	Dia. "/mm	Flutes Per Circumference Coarse	Medium
$\frac{1}{8}$ " / 3mm	14	20	$\frac{1}{8}$ " / 3mm	7	10
$\frac{3}{16}$ " / 4.7mm	14	20	$\frac{3}{16}$ " / 4.7mm	9	13
$\frac{1}{4}$ " / 6mm	14	20	$\frac{1}{4}$ " / 6mm	10	16
$\frac{5}{16}$ " / 8mm	12	18	$\frac{5}{16}$ " / 8mm	12	18
$\frac{3}{8}$ " / 10mm	12	18	$\frac{3}{8}$ " / 10mm	14	20
$\frac{7}{16}$ " / 11mm	12	18	$\frac{7}{16}$ " / 11mm	15	22
$\frac{1}{2}$ " / 13mm	12	18	$\frac{1}{2}$ " / 13mm	16	24
$\frac{9}{16}$ " / 16mm	12	18	$\frac{9}{16}$ " / 16mm	18	27
$\frac{3}{4}$ " / 19mm	12	18	$\frac{3}{4}$ " / 19mm	20	30
$\frac{7}{8}$ " / 22mm	12	18	$\frac{7}{8}$ " / 22mm	22	33
1" / 25mm	10	15	1" / 25mm	24	36
$1\frac{1}{8}$ " / 28mm	10	15	$1\frac{1}{8}$ " / 28mm	26	39

## Take Care of Your Tools

Don't Do This



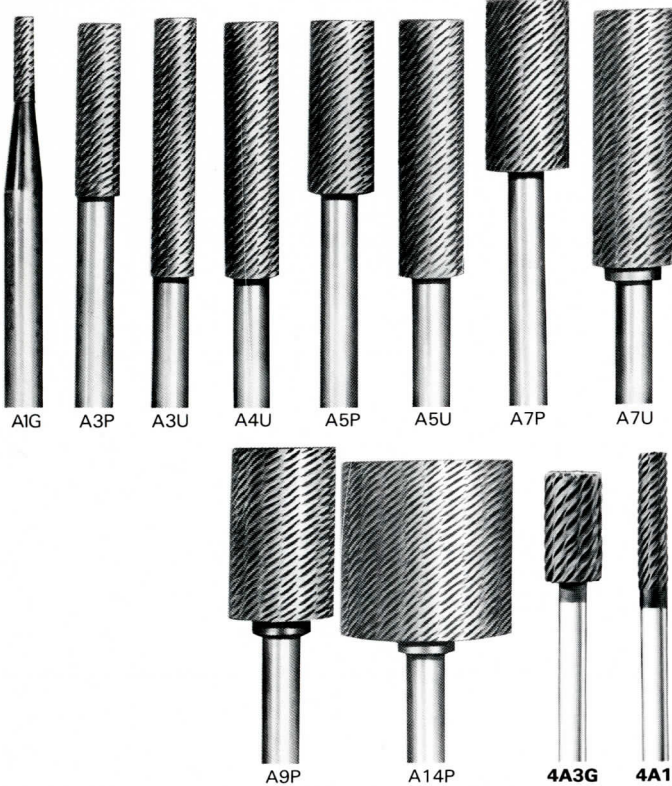
Protect your eyes—  
always wear safety goggles.



# High speed steel rotary files

Hand cut rotary files with  $\frac{1}{4}$ " / 6mm shanks. Stocked in Coarse, Medium and some fine cuts. Note: A limited number of files available in  $\frac{1}{8}$ " / 3mm shanks. **For easier identification of  $\frac{1}{8}$ " / 3mm file, code numbers are in bold.**

## Cylindrical shape—flat end hand cut style "A"



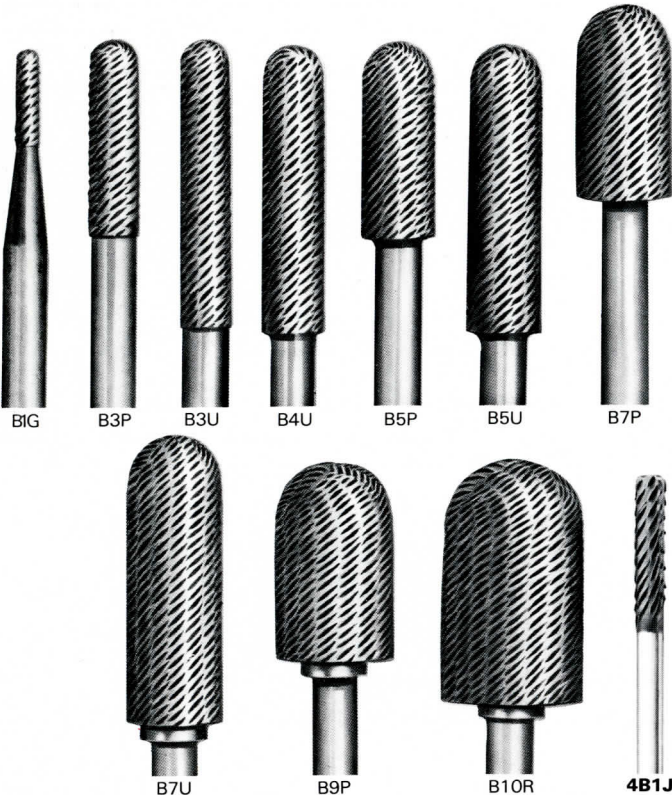
Ref. No.	Dia. x length " / mm x " / mm	Catalog & Nida/Sida Numbers			Shank " / mm
		Coarse	Medium	Fine	
A1G	$\frac{1}{8}$ x $\frac{1}{2}$ / 13	50001 *	50003 *	—	$\frac{1}{4}$ / 6
A3P	$\frac{1}{4}$ x 1 / 25	50013 * 50019	50015 * 50021	—	$\frac{1}{4}$ / 6
A3U	$\frac{1}{4}$ x $1\frac{1}{2}$ / 38	50025	50027	—	$\frac{1}{4}$ / 6
A4U	$\frac{5}{16}$ x $1\frac{1}{2}$ / 38	—	50033	—	$\frac{1}{4}$ / 6
A5P	$\frac{3}{8}$ x 1 / 25	50037	50039	—	$\frac{1}{4}$ / 6
A5U	$\frac{3}{8}$ x $1\frac{1}{2}$ / 38	50043	50045	—	$\frac{1}{4}$ / 6
A7P	$\frac{1}{2}$ x 1 / 25	50049	50051	50053	$\frac{1}{4}$ / 6
A7U	$\frac{1}{2}$ x $1\frac{1}{2}$ / 38	50055	50057	50059	$\frac{1}{4}$ / 6

Ref. No.	Dia. x length " / mm x " / mm	Catalog & Nida/Sida Numbers			Shank " / mm
		Coarse	Medium	Fine	
A9P	$\frac{5}{8}$ / 16 x 1 / 25	—	50063	—	$\frac{1}{4}$ / 6
A10K **	$\frac{3}{4}$ / 19 x $\frac{3}{4}$ / 19	—	50075	—	$\frac{1}{4}$ / 6
A14P	1 / 25 x 1 / 25	—	50081	—	$\frac{1}{4}$ / 6
<b>4A3G</b>	$\frac{1}{4}$ x $\frac{1}{2}$ / 13	—	<b>51029</b>	—	$\frac{1}{8}$ / 3
<b>4A1J</b>	$\frac{1}{8}$ x $\frac{5}{8}$ / 76	—	<b>51031</b>	—	$\frac{1}{8}$ / 3

\* Have uncut ends.

\*\* Not illustrated

## Cylindrical shape—radius end hand cut style "B"

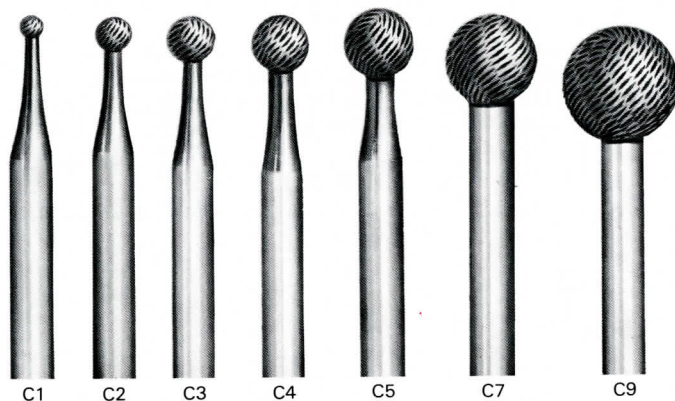


Ref. No.	Dia. x length " / mm x " / mm	Catalog & Nida/Sida Numbers		Shank " / mm
		Coarse	Medium	
B1G	$\frac{1}{8}$ x $\frac{1}{2}$ / 13	—	50087	$\frac{1}{4}$ / 6
B3P	$\frac{1}{4}$ x 1 / 25	50091	50093	$\frac{1}{4}$ / 6
B3U	$\frac{1}{4}$ x $1\frac{1}{2}$ / 38	50097	50099	$\frac{1}{4}$ / 6
B4U	$\frac{5}{16}$ x $1\frac{1}{2}$ / 38	—	50105	$\frac{1}{4}$ / 6
B5P	$\frac{3}{8}$ x 1 / 25	50109	50111	$\frac{1}{4}$ / 6
B5U	$\frac{3}{8}$ x $1\frac{1}{2}$ / 38	—	50117	$\frac{1}{4}$ / 6
B7P	$\frac{1}{2}$ x 1 / 25	50121	50123	$\frac{1}{4}$ / 6
B7U	$\frac{1}{2}$ x $1\frac{1}{2}$ / 38	—	50129	$\frac{1}{4}$ / 6

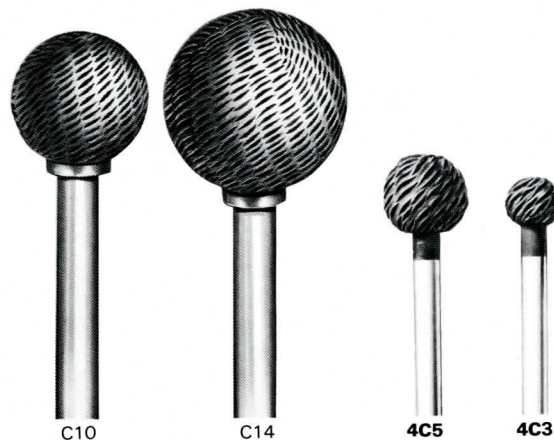
Ref. No.	Dia. x length " / mm x " / mm	Catalog & Nida/Sida Numbers		Shank " / mm
		Coarse	Medium	
B9P	$\frac{5}{8}$ / 16 x 1 / 25	—	50135	$\frac{1}{4}$ / 6
B10R	$\frac{3}{4}$ / 19 x $1\frac{1}{2}$ / 32	—	50141	$\frac{1}{4}$ / 6
<b>4B1J</b>	$\frac{1}{8}$ x $\frac{5}{8}$ / 16	—	<b>51035</b>	$\frac{1}{8}$ / 3



## Ball shape hand cut style "C"

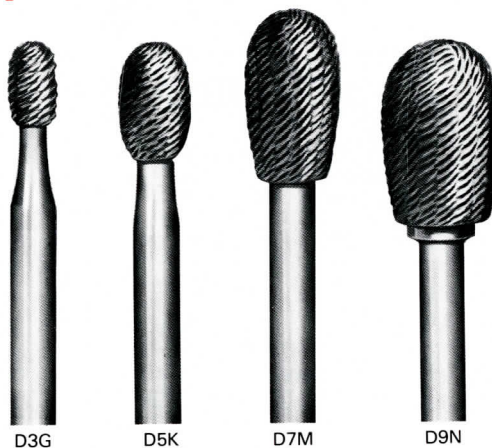


Ref. No.	Dia. "/mm	Catalog & Nida/Sida Numbers			Shank "/mm
		Coarse	Medium	Fine	
C1	$\frac{1}{8}$ /3	—	50147	—	$\frac{1}{8}$ /6
C2	$\frac{3}{16}$ /5	—	50153	—	$\frac{3}{16}$ /6
C3	$\frac{1}{4}$ /6	50157	50159	50161	$\frac{1}{4}$ /6
C4	$\frac{5}{16}$ /8	—	50165	—	$\frac{5}{16}$ /6
C5	$\frac{3}{8}$ /9	50169	50171	—	$\frac{3}{8}$ /6
C7	$\frac{1}{2}$ /13	—	50177	—	$\frac{1}{2}$ /6
C9	$\frac{5}{8}$ /16	—	50183	—	$\frac{5}{8}$ /6



Ref. No.	Dia. "/mm	Catalog & Nida/Sida Numbers			Shank "/mm
		Coarse	Medium	Fine	
C10	$\frac{3}{4}$ /19	—	50189	—	$\frac{3}{4}$ /6
C14	1/25	—	50195	—	$\frac{1}{2}$ /6
<b>4C5</b>	$\frac{3}{8}$ /9	—	<b>51039</b>	—	$\frac{3}{8}$ /3
<b>4C3</b>	$\frac{1}{4}$ /6	—	<b>51041</b>	—	$\frac{1}{4}$ /3

## Oval shape hand cut style "D"

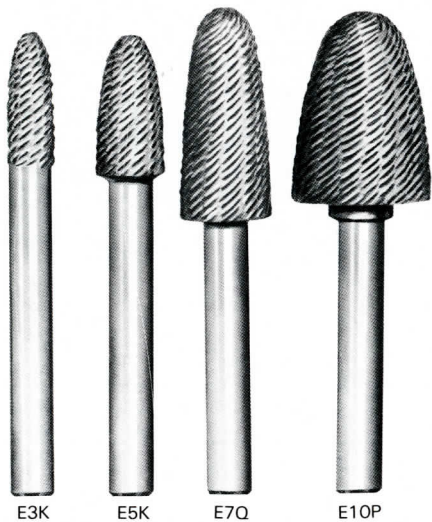


Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
D3G	$\frac{1}{8}$ /6 x $\frac{1}{4}$ /13	—	50201	$\frac{1}{8}$ /6
D5K	$\frac{3}{16}$ /9 x $\frac{3}{8}$ /19	—	50207	$\frac{3}{16}$ /6
D7M	$\frac{1}{2}$ /13 x $\frac{3}{8}$ /22	—	50219	$\frac{1}{2}$ /6
D9N	$\frac{5}{8}$ /16 x $\frac{1}{2}$ /24	50223	50225	$\frac{5}{8}$ /6



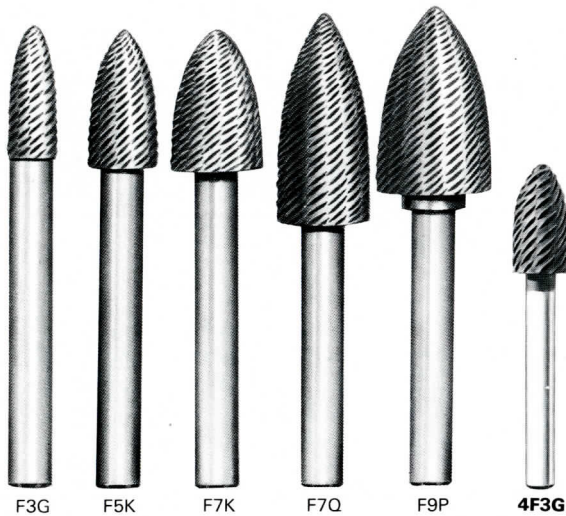
Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
D14S	1/25 x 1 $\frac{3}{8}$ /35	—	50237	$\frac{1}{2}$ /6
<b>4D3G</b>	$\frac{1}{8}$ /6 x $\frac{1}{4}$ /13	—	<b>51043</b>	$\frac{1}{8}$ /3

Tree shape–radius end hand cut style “E”



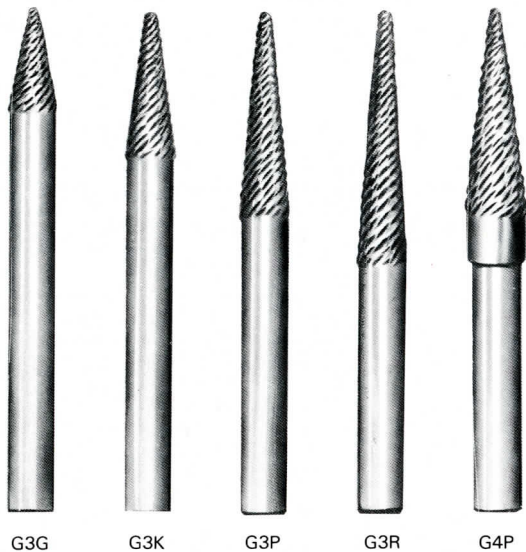
Ref. No.	Dia. x length " /mm x " /mm	Catalog & Nida/Sida Numbers		Shank " /mm
		Coarse	Medium	
E3K	$\frac{1}{4}/6 \times \frac{3}{4}/19$	50241	50243	$\frac{1}{4}/6$
E5K	$\frac{3}{8}/9 \times \frac{3}{4}/19$	—	50249	$\frac{1}{4}/6$
E7Q	$\frac{1}{2}/13 \times 1\frac{1}{4}/28$	50253	50255	$\frac{1}{4}/6$
E10P	$\frac{3}{4}/19 \times 1/25$	—	50261	$\frac{1}{4}/6$

Tree shape–pointed end hand cut style “F”



Ref. No.	Dia. x length " /mm x " /mm	Catalog & Nida/Sida Numbers		Shank " /mm
		Coarse	Medium	
F3G	$\frac{1}{4}/6 \times \frac{1}{2}/13$	—	50273	$\frac{1}{4}/6$
F5K	$\frac{3}{8}/9 \times \frac{3}{4}/19$	50277	50279	$\frac{1}{4}/6$
F7K	$\frac{1}{2}/13 \times \frac{3}{4}/19$	—	50285	$\frac{1}{4}/6$
F7Q	$\frac{1}{2}/13 \times 1\frac{1}{4}/38$	—	50291	$\frac{1}{4}/6$
F9P	$\frac{3}{8}/16 \times 1/25$	—	50297	$\frac{1}{4}/6$
4F3G	$\frac{1}{4}/6 \times \frac{1}{2}/13$	—	51047	$\frac{1}{8}/3$

Cone shape hand cut style “G”



Ref. No.	Dia. x length " /mm x " /mm	Included Angle	Cat. & N/S Nos. Medium	Shank " /mm
G3G	$\frac{1}{4}/6 \times \frac{1}{2}/13$	22°	50309	$\frac{1}{4}/6$
G3K	$\frac{1}{4}/6 \times \frac{3}{4}/19$	14°	50315	$\frac{1}{4}/6$
G3P	$\frac{1}{4}/6 \times 1/25$	11°	50321	$\frac{1}{4}/6$
G3R	$\frac{1}{4}/6 \times 1\frac{1}{4}/32$	8°	50327	$\frac{1}{4}/6$
G4P	$\frac{5}{8}/8 \times 1/25$	14°	50339	$\frac{1}{4}/6$

Continued on next page.

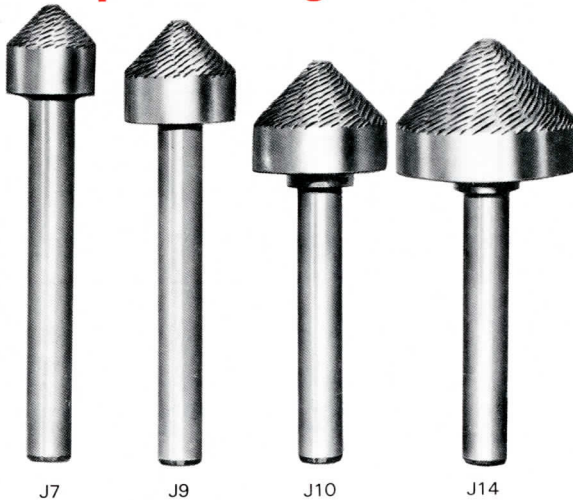


## Cone shape hand cut style "G" cont.



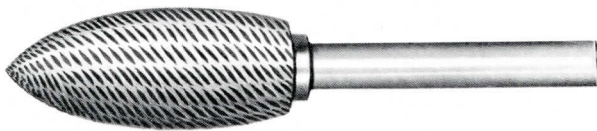
Ref. No.	Dia. x length " /mm x " /mm	Included Angle	Cat. & N/S Nos. Medium	Shank " /mm
G7M	$\frac{1}{2}/13 \times \frac{5}{8}/22$	28°	50351	$\frac{1}{4}/6$
G9P	$\frac{5}{8}/16 \times 1/25$	32°	50357	$\frac{1}{4}/6$
<b>4G1H</b>	$\frac{1}{8}/3 \times \frac{9}{16}/14$	—	<b>51053</b>	$\frac{1}{8}/3$
<b>4G3C</b>	$\frac{1}{4}/6 \times \frac{1}{4}/6$	60°	<b>51051</b>	$\frac{1}{8}/3$
<b>4G3G</b>	$\frac{1}{4}/6 \times \frac{1}{2}/13$	25°	<b>51049</b>	$\frac{1}{8}/3$

## Cone shape 90° angle hand cut style "J"



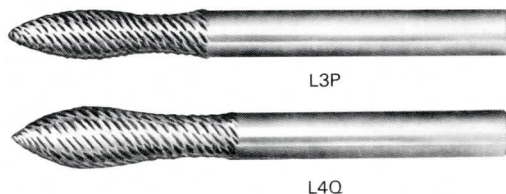
Ref. No.	Dia. " /mm.	Included Angle	Cat. & N/S Nos. Medium	Shank " /mm
J7	$\frac{1}{2}/13$	90°	50399	$\frac{1}{4}/6$
J9	$\frac{5}{8}/16$	90°	50405	$\frac{1}{4}/6$
J10	$\frac{3}{4}/19$	90°	50411	$\frac{1}{4}/6$
J14	1/25	90°	50417	$\frac{1}{4}/6$

## Flame shape hand cut style "K"



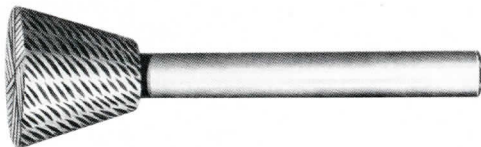
Ref. No.	Dia. x length " /mm x " /mm	Cat. & N/S Nos. Medium	Shank " /mm
K9T	$\frac{5}{8}/16 \times 1\frac{1}{2}/36$	50429	$\frac{1}{4}/6$

## Bi-Shape hand cut style "L"



Ref. No.	Dia. x length " /mm x " /mm	Cat. & N/S Nos. Medium	Shank " /mm
L3P	$\frac{1}{4}/6 \times 1/25 \frac{1}{8}/22$ Radius	50441	$\frac{1}{4}/6$
L4Q	$\frac{5}{8}/8 \times 1\frac{1}{8}/28 \frac{1}{8}/28$ Radius	50447	$\frac{1}{4}/6$

## Inverted cone shape 33° included angle hand cut style "M"



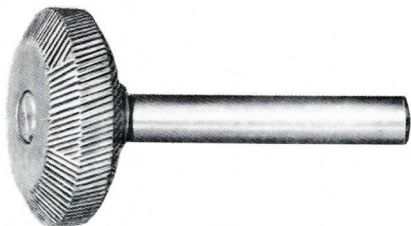
Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
M10J	$\frac{3}{4}$ /19 x $\frac{5}{8}$ /16	50457	50459	$\frac{1}{4}$ /6

## Barrel shape hand cut style "CC"



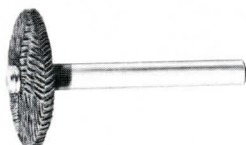
Ref. No.	Dia. x length " /mm x " /mm	Catalog & Nida/Sida Numbers Medium	Shank " /mm
CC7P	1/13 x 1/25	50477	1/6

## Cylindrical shape double taper 60° included angle hand cut style "DD"



Ref. No.	Dia. x length " /mm x " /mm	Catalog & Nida/Sida Numbers Medium	Shank " /mm
DD15E	1 <sup>1</sup> / <sub>8</sub> /28 x <sup>3</sup> / <sub>8</sub> /9	50483	<sup>1</sup> / <sub>4</sub> /6

## Cylindrical shape radius end and edge



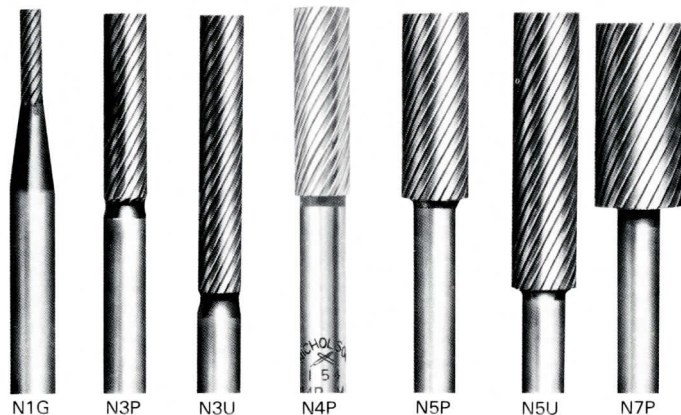
Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers Medium	Shank "/mm
4H9A	$\frac{5}{8}$ /16 x $\frac{1}{8}$ /3	51037	$\frac{1}{8}$ /3



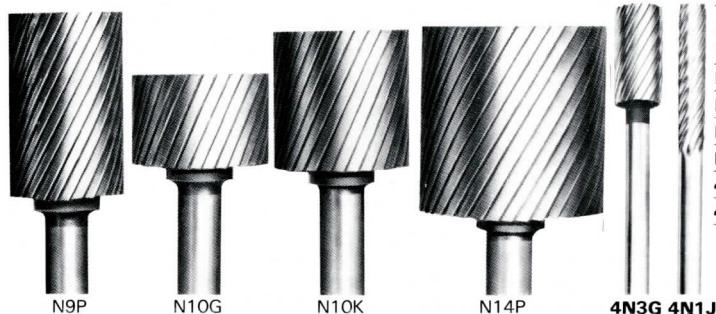
## High speed steel ground burs

Ground burs with  $\frac{1}{4}$ "/6mm shanks. Stocked in coarse and medium cuts. Note: limited number of burs available with  $\frac{3}{8}$ "/3mm shanks for use with portable hand tools (electric or air), drill press or flexible shaft. **For easier identification of  $\frac{3}{8}$ "/3mm burs, code numbers are in bold.**

### Cylindrical shape—flat end ground bur style "N"

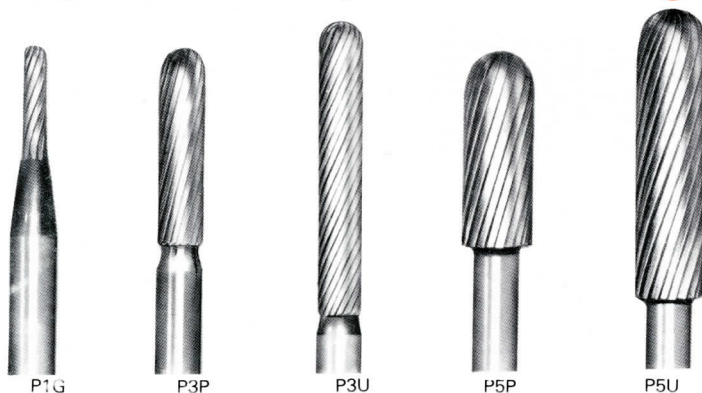


Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
N1G	$\frac{1}{8}$ x $\frac{1}{2}$ x 13	—	50489	$\frac{1}{4}$ /6
N3P	$\frac{1}{4}$ x 1/25	50499	50501	$\frac{1}{4}$ /6
N3U	$\frac{1}{4}$ x 1 1/38	—	50513	$\frac{1}{4}$ /6
N4P	$\frac{5}{16}$ x 1/25	—	50525	$\frac{1}{4}$ /6
N5P	$\frac{3}{8}$ x 1/25	50535	50537	$\frac{1}{4}$ /6
N5U	$\frac{3}{8}$ x 1 1/38	—	50549	$\frac{1}{4}$ /6
N7P	$\frac{1}{2}$ x 1/25	50559	50561	$\frac{1}{4}$ /6

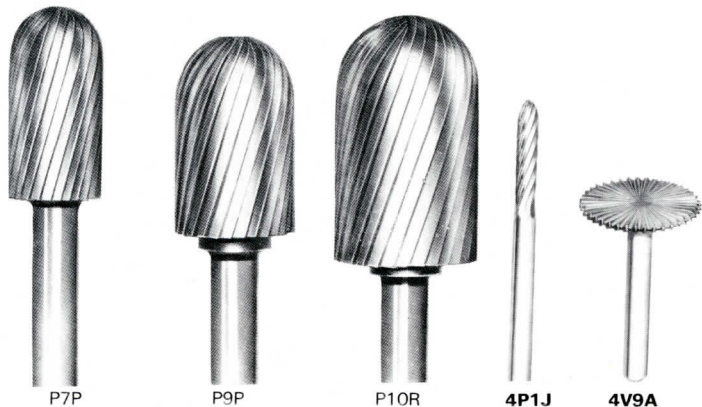


Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
N9P	$\frac{5}{8}$ x 1/25	—	50573	$\frac{1}{4}$ /6
N10G	$\frac{3}{4}$ x 19 x 1/13	—	50585	$\frac{1}{4}$ /6
N10K	$\frac{3}{4}$ x 19 x 1/19	50595	50597	$\frac{1}{4}$ /6
N14P	1/25 x 1/25	—	50609	$\frac{1}{4}$ /6
<b>4N3G</b>	$\frac{1}{4}$ x 1/13	—	<b>51065</b>	$\frac{1}{8}$ /3
<b>4N1J</b>	$\frac{1}{8}$ x $\frac{3}{8}$ x 16	—	<b>51067</b>	$\frac{1}{8}$ /3

### Cylindrical shape—radius end ground bur style "P"

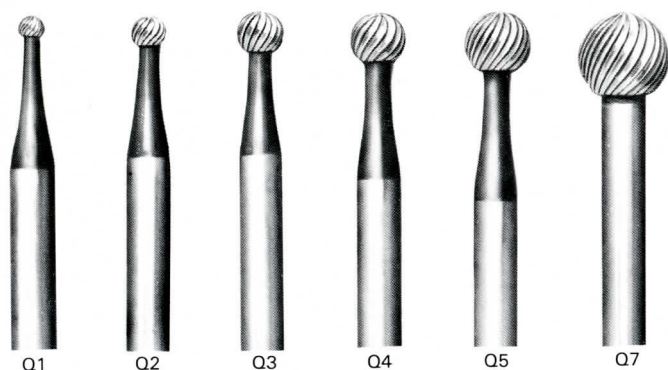


Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
P1G	$\frac{1}{8}$ x $\frac{1}{2}$ x 13	—	50621	$\frac{1}{4}$ /6
P3P	$\frac{1}{4}$ x 1/25	50625	50627	$\frac{1}{4}$ /6
P3U	$\frac{1}{4}$ x 1 1/38	—	50633	$\frac{1}{4}$ /6
P5P	$\frac{3}{8}$ x 1/25	—	50639	$\frac{1}{4}$ /6
P5U	$\frac{3}{8}$ x 1 1/38	—	50645	$\frac{1}{4}$ /6

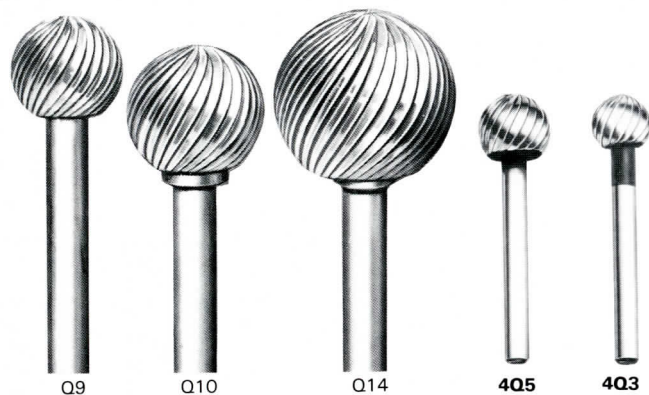


Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
P7P	$\frac{1}{2}$ x 13 x 1/25	50649	50651	$\frac{1}{4}$ /6
P9P	$\frac{5}{8}$ x 16 x 1/25	—	50657	$\frac{1}{4}$ /6
P10R	$\frac{3}{4}$ x 19 x 1/32	—	50663	$\frac{1}{4}$ /6
<b>4P1J</b>	$\frac{1}{8}$ x $\frac{3}{8}$ x 16	—	<b>51071</b>	$\frac{1}{8}$ /3
<b>4V9A</b>	$\frac{5}{8}$ x 16 x 1/3	—	<b>51073</b>	$\frac{1}{8}$ /3

## Ball shape ground bur style "Q"



Ref. No.	Dia. "/mm	Catalog & Nida/Sida Numbers Medium	Shank "/mm
Q1	$\frac{1}{8}/3$	50669	$\frac{1}{4}/6$
Q2	$\frac{3}{16}/5$	50675	$\frac{1}{4}/6$
Q3	$\frac{1}{4}/6$	50681	$\frac{1}{4}/6$
Q4	$\frac{5}{16}/8$	50687	$\frac{1}{4}/6$
Q5	$\frac{3}{8}/9$	50693	$\frac{1}{4}/6$
Q7	$\frac{1}{2}/13$	50699	$\frac{1}{4}/6$

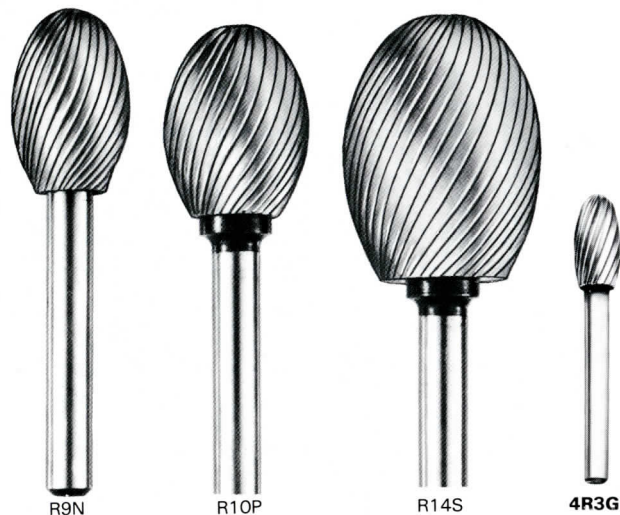


Ref. No.	Dia. "/mm	Catalog & Nida/Sida Numbers Medium	Shank "/mm
Q9	$\frac{5}{8}/16$	50705	$\frac{1}{4}/6$
Q10	$\frac{3}{4}/19$	50711	$\frac{1}{4}/6$
Q14	$1/25$	50717	$\frac{1}{4}/6$
<b>4Q5</b>	$\frac{3}{8}/9$	<b>51075</b>	$\frac{1}{8}/3$
<b>4Q3</b>	$\frac{1}{4}/6$	<b>51077</b>	$\frac{1}{8}/3$

## Oval shape ground bur style "R"



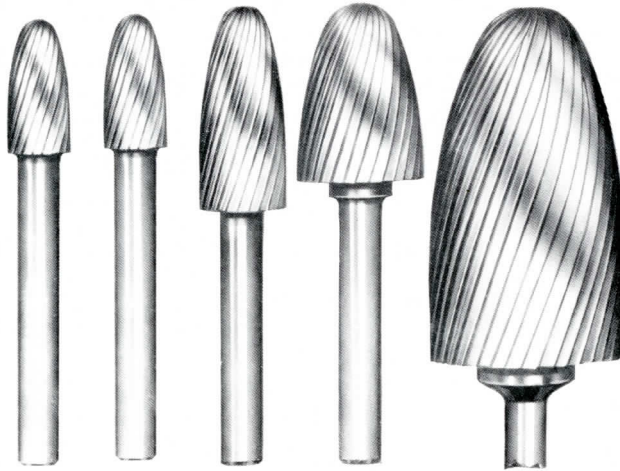
Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers Medium	Shank "/mm
R3G	$\frac{1}{4}/6 \times \frac{1}{2}/13$	50723	$\frac{1}{4}/6$
R5K	$\frac{3}{8}/9 \times \frac{3}{4}/19$	50729	$\frac{1}{4}/6$
R6L	$\frac{7}{8}/11 \times \frac{1}{2}/21$	50735	$\frac{1}{4}/6$
R7M	$\frac{1}{2}/13 \times \frac{3}{4}/22$	50741	$\frac{1}{4}/6$



Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers Medium	Shank "/mm
R9N	$\frac{5}{8}/16 \times \frac{1}{2}/24$	50747	$\frac{1}{4}/6$
R10P	$\frac{3}{4}/19 \times 1/25$	50753	$\frac{1}{4}/6$
R14S	$1/25 \times 1\frac{3}{8}/35$	50759	$\frac{1}{4}/6$
<b>4R3G</b>	$\frac{1}{4}/6 \times \frac{1}{2}/13$	<b>51079</b>	$\frac{1}{8}/3$



## Tree shape radius end ground bur style "S"



S3K

S5K

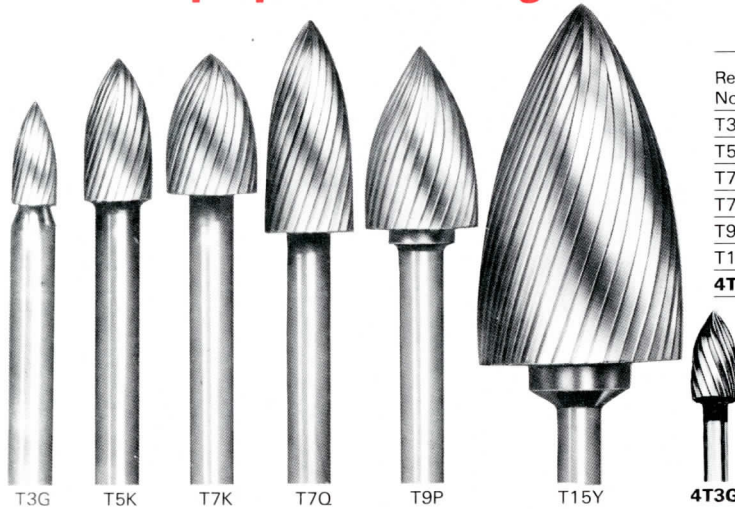
S7Q

S10P

S15Y

Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
S3K	$\frac{1}{8}$ x $\frac{3}{8}$ / 19	50769	50771	$\frac{1}{8}$ / 6
S5K	$\frac{3}{8}$ x $\frac{3}{8}$ / 19	—	50777	$\frac{1}{8}$ / 6
S7Q	$\frac{1}{2}$ x $\frac{1}{2}$ / 28	50781	50783	$\frac{1}{8}$ / 6
S10P	$\frac{3}{4}$ x $\frac{1}{2}$ / 25	—	50789	$\frac{1}{8}$ / 6
S15Y	$1\frac{1}{8}$ x $2\frac{1}{2}$ / 50	—	50795	$\frac{1}{8}$ / 6

## Tree shape pointed end ground bur style "T"



T3G

T5K

T7K

T7Q

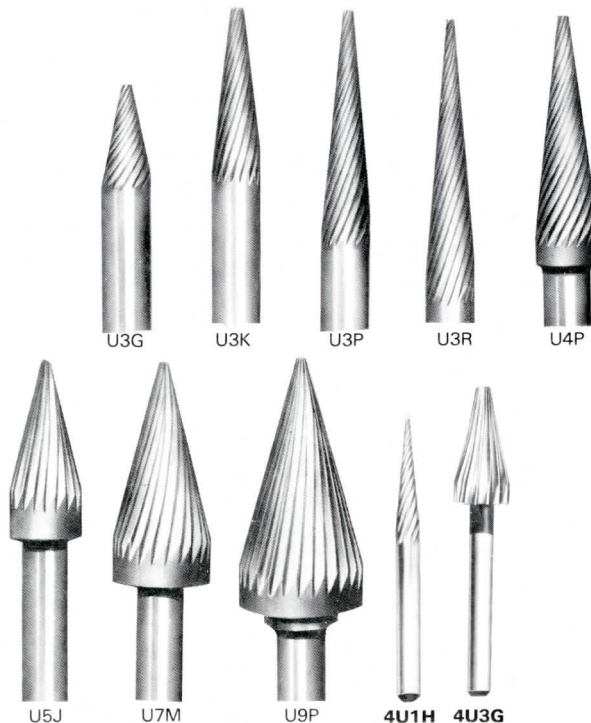
T9P

T15Y

4T3G

Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers		Shank "/mm
		Coarse	Medium	
T3G	$\frac{1}{8}$ x $\frac{1}{2}$ / 13	—	50801	$\frac{1}{8}$ / 6
T5K	$\frac{3}{8}$ x $\frac{3}{8}$ / 19	—	50807	$\frac{1}{8}$ / 6
T7K	$\frac{1}{2}$ x $\frac{3}{8}$ / 19	—	50813	$\frac{1}{8}$ / 6
T7Q	$\frac{1}{2}$ x $1\frac{1}{8}$ / 28	—	50819	$\frac{1}{8}$ / 6
T9P	$\frac{3}{4}$ x $1\frac{1}{2}$ / 25	—	50825	$\frac{1}{8}$ / 6
T15Y	$1\frac{1}{8}$ x $2\frac{1}{2}$ / 50	—	50831	$\frac{1}{8}$ / 6
4T3G	$\frac{1}{8}$ x $\frac{1}{2}$ / 13	—	51083	$\frac{1}{8}$ / 3

## Cone shape ground bur style "U"



U3G

U3K

U3P

U3R

U4P

U5J

U7M

U9P

4U1H

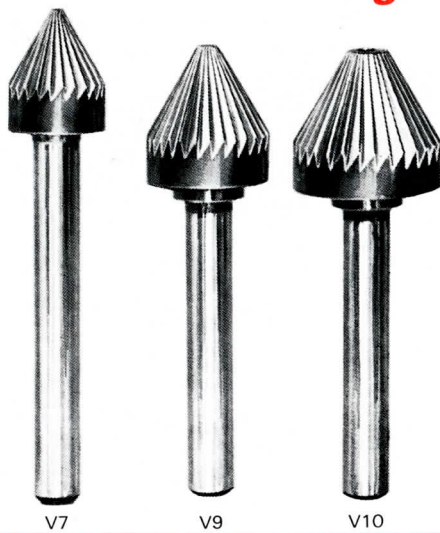
4U3G

Ref. No.	Dia. x length "/mm x "/mm	Included Angle	Cat. & N/S Nos.		Shank "/mm
			Medium		
U3G	$\frac{1}{8}$ x $\frac{1}{2}$ / 13	22°	50837		$\frac{1}{8}$ / 6
U3K	$\frac{1}{8}$ x $\frac{3}{8}$ / 19	14°	50843		$\frac{1}{8}$ / 6
U3P	$\frac{1}{8}$ x $1\frac{1}{2}$ / 25	11°	50849		$\frac{1}{8}$ / 6
U3R	$\frac{1}{8}$ x $1\frac{1}{2}$ / 32	8°	50855		$\frac{1}{8}$ / 6
U4P	$\frac{5}{16}$ x $1\frac{1}{2}$ / 25	14°	50867		$\frac{1}{8}$ / 6

Ref. No.	Dia. x length "/mm x "/mm	Included Angle	Cat. & N/S Nos.		Shank "/mm
			Medium		
U5J	$\frac{3}{8}$ x $\frac{9}{16}$ / 16	28°	50873		$\frac{1}{8}$ / 6
U7M	$\frac{1}{2}$ x $\frac{7}{8}$ / 22	28°	50879		$\frac{1}{8}$ / 6
U9P	$\frac{3}{4}$ x $1\frac{1}{2}$ / 25	32°	50885		$\frac{1}{8}$ / 6
4U1H	$\frac{1}{8}$ x $\frac{9}{16}$ / 14	8°	51089		$\frac{1}{8}$ / 3
4U3G	$\frac{1}{8}$ x $\frac{1}{2}$ / 13	25°	51085		$\frac{1}{8}$ / 3
4U3C*	$\frac{1}{8}$ x $\frac{1}{2}$ / 6		51087		$\frac{1}{8}$ / 3

\*Not illustrated

Cone shape 60° included angle ground bur style "V"



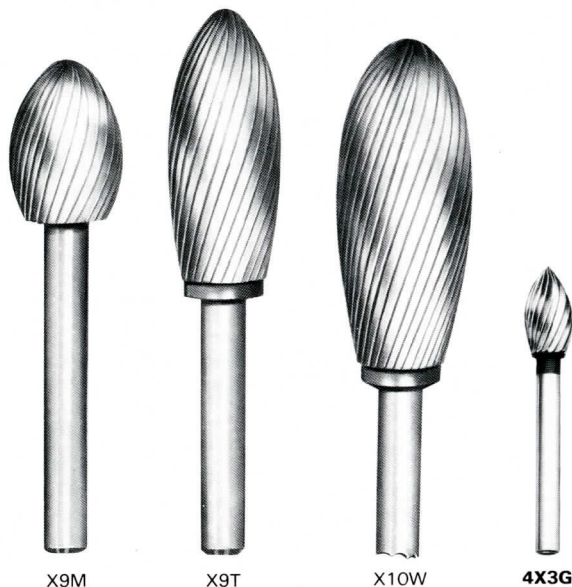
Ref. No.	Dia. " /mm	Included Angle	Cat. & N/S Nos. Medium	Shank " /mm
V7	1/13	60°	50897	1/6
V9	3/16	60°	50903	1/6
V10	1/19	60°	50909	1/6

Cone shape 90° included angle ground bur style "W"



Ref. No.	Dia. " /mm	Included Angle	Cat. & N/S Nos. Medium	Shank " /mm
W7	1/13	90°	50927	1/6
W14	1/25	90°	50945	1/6

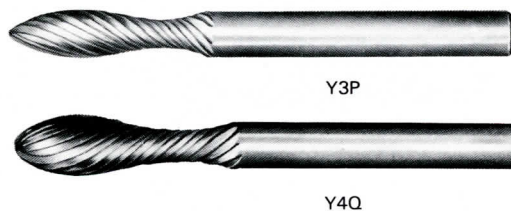
Flame shape ground bur style "X"



Ref. No.	Dia. x length " /mm x " /mm	Cat. & N/S Nos. Medium	Shank " /mm
X9M	3/16 x 7/22	50951	1/6
X9T	3/16 x 1 7/8 /36	50957	1/6
X10W	1/19 x 1 3/4 /44	50963	1/6
4X3G	1/6 x 1/13	51095	1/8 /3



## Bi-shape ground bur style "Y"



Ref. No.	Dia. x length " /mm x " /mm x " /mm	Catalog & N/S Nos. Medium	Shank " /mm
Y3P	$\frac{1}{4}$ /6 x 1 /25 x $\frac{3}{8}$ /22 Radius	50969	$\frac{1}{4}$ /6
Y4Q	$\frac{5}{16}$ /8 x 1 $\frac{1}{8}$ /29 x 1 $\frac{1}{8}$ /29 Radius	50975	$\frac{1}{4}$ /6

## Inverted cone shape 33° included angle ground bur style "Z"



Ref. No.	Dia. x length " /mm x " /mm	Catalog & N/S Nos. Medium	Shank " /mm
Z10J	$\frac{3}{4}$ /19 x $\frac{1}{8}$ /16	50987	$\frac{1}{4}$ /6

## Concave shape type 1 - 2549 radius ground bur style "NN"



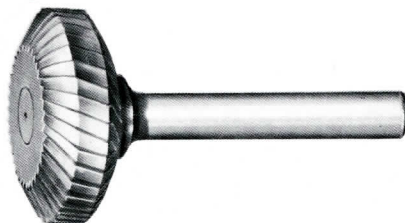
Ref. No.	Dia. x length " /mm x " /mm	Catalog & N/S Nos. Medium	Shank " /mm
NN10J	$\frac{3}{4}$ /19 x $\frac{1}{8}$ /16	50999	$\frac{1}{4}$ /6

## Barrel shape ground bur style "QQ"



Ref. No.	Dia. x length " /mm x " /mm	Catalog & N/S Nos. Medium	Shank " /mm
QQ7P	$\frac{1}{2}$ /13 x 1 /25	51011	$\frac{1}{4}$ /6

## Cylindrical shape double taper 60° included angle ground bur style "RR"



Ref. No.	Dia. x length " /mm x " /mm	Catalog & N/S Nos. Medium	Shank " /mm
RR15E	1 $\frac{1}{2}$ /28 x $\frac{3}{8}$ /9	51017	$\frac{1}{4}$ /6

## Flat top ball shape



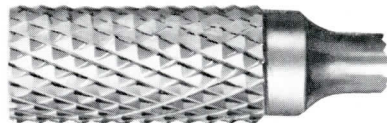
Ref. No.	Dia. x length " /mm x " /mm	Catalog & N/S Nos. Medium	Shank " /mm
4Y5C	$\frac{3}{8}$ /9 x $\frac{1}{2}$ /5.5	51097	$\frac{1}{4}$ /3

# Tungsten carbide burs

Nicholson carbide burs are precision ground from tungsten carbide blanks. All our carbide burs which have 1/4" /6mm diameter heads or less are made from solid carbide, which eliminates the possibility of the heads of these small tools snapping off at the braze. Burs over 1/4" /6mm diameter are made with carbide heads brazed to heat treated steel shank 2 inches/50mm long. Nicholson carbide burs can be reground many times at a small part of the original cost of the tool.



Standard Cut



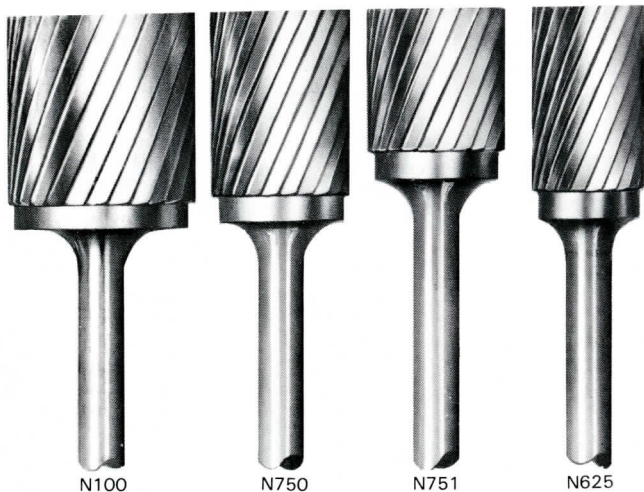
Diamond Cut

Recommended speeds on page 51.

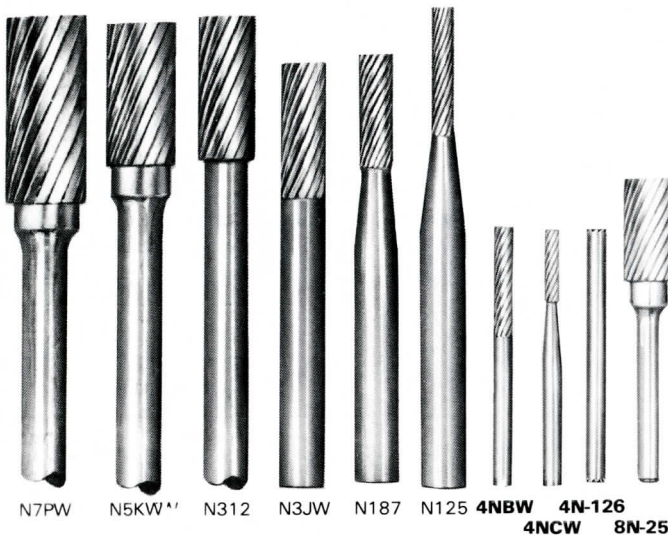
## Carbide burs with 1/4" /6mm shanks

Note: A limited number of Carbide burs are available with 1/8" /3mm shanks. **For easier identification of 1/8" /3mm burs, code numbers are in bold.**

## Cylindrical flat end



Ref. No.	Dia. x length " /mm x " /mm	Standard	Catalog & Nida/Sida Numbers			
			Diamond Cut Std.	Diamond end Cut Std.	End Cut Std.	Shank " /mm
N100	1/25 x 1/25	51421	—	—	—	1/6
N750	3/19 x 1/25	51397	—	—	—	1/6
N751	3/19 x 3/19	51373	—	—	—	1/6
N625	5/16 x 1/25	51325	51337	—	—	1/6

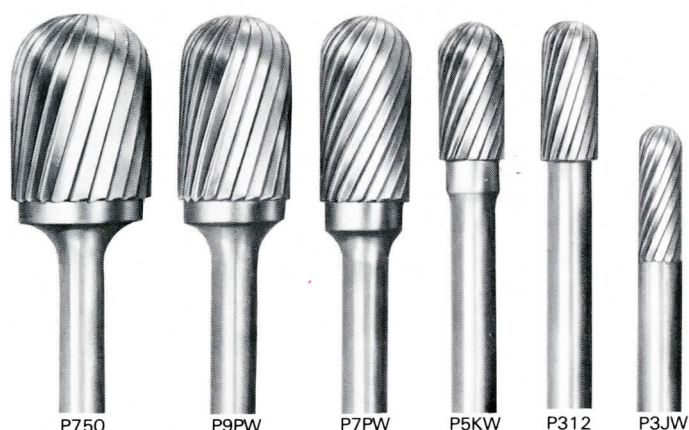


Ref. No.	Dia. x length " /mm x " /mm	Standard	Catalog & Nida/Sida Numbers			
			Diamond Cut Std.	Diamond end Cut Std.	End Cut Std.	Shank " /mm
N7PW*	$\frac{1}{13} \times \frac{1}{25}$	51301	51313	51319	51307	$\frac{1}{6}$
N5KW*	$\frac{3}{8} \times \frac{3}{19}$	51253	51265	—	51259	$\frac{1}{6}$
N312*	$\frac{5}{8} \times \frac{3}{19}$	51229	—	—	51235	$\frac{1}{6}$
N3JW*	$\frac{1}{6} \times \frac{5}{16}$	51205	51217	—	51211	$\frac{1}{6}$
N187	$\frac{3}{5} \times \frac{5}{16}$	51181	51193	—	—	$\frac{1}{6}$
N125	$\frac{1}{3} \times \frac{1}{13}$	51133	—	—	—	$\frac{1}{6}$
<b>4NBW</b>	$\frac{1}{3} \times \frac{3}{8} / 14$	<b>52501</b>	—	—	—	$\frac{1}{3}$
<b>4NCW</b>	$\frac{3}{2} \times \frac{7}{8} / 11$	<b>52525</b>	—	—	—	$\frac{1}{3}$
<b>4N-126</b>	$\frac{1}{3} \times \frac{3}{8} / 14$	<b>52573</b>	—	—	—	$\frac{1}{3}$
<b>8N-250</b>	$\frac{1}{6} \times \frac{1}{13}$	<b>52975</b>	—	—	—	$\frac{1}{3}$

\* Can be furnished with cut end  
Note: 1/8" /3mm burs not illustrated.



## Cylindrical radius end



P750

P9PW

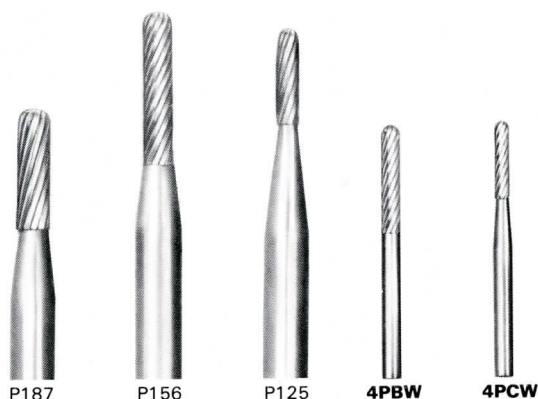
P7PW

P5KW

P312

P3JW

Ref. No.	Dia. x length " /mm x " /mm	Catalog & Nida/Sida Numbers		Shank " /mm
		Standard	Diamond Cut Std.	
P750	$\frac{3}{4}/19 \times 1/25$	51553	—	$\frac{1}{4}/6$
P9PW	$\frac{3}{8}/16 \times 1/25$	51541	—	$\frac{1}{4}/6$
P7PW	$\frac{1}{2}/13 \times 1/25$	51529	51535	$\frac{1}{4}/6$
P5KW	$\frac{3}{8}/9 \times \frac{1}{4}/19$	51505	51511	$\frac{1}{4}/6$
P312	$\frac{5}{16}/8 \times \frac{3}{4}/19$	51493	—	$\frac{1}{4}/6$



P187

P156

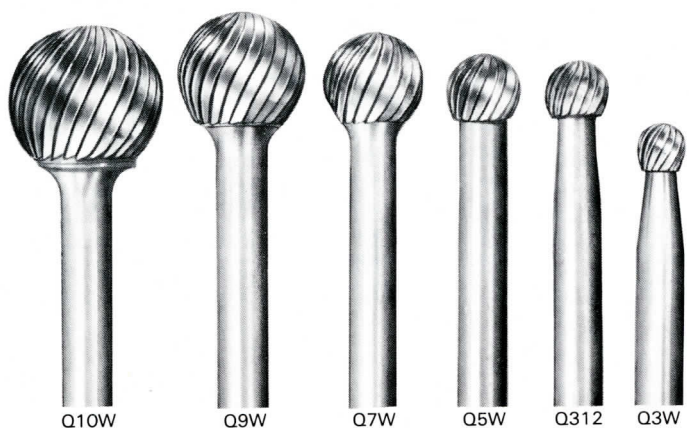
P125

4PBW

4PCW

Ref. No.	Dia. x length " /mm x " /mm	Catalog & Nida/Sida Numbers		Shank " /mm
		Standard	Diamond Cut Std.	
P3JW	$\frac{1}{4}/6 \times \frac{3}{8}/16$	51481	51487	$\frac{1}{4}/6$
P187	$\frac{3}{8}/5 \times \frac{3}{8}/16$	51469	—	$\frac{1}{4}/6$
P156	$\frac{3}{8}/4 \times \frac{3}{8}/16$	51457	—	$\frac{1}{4}/6$
P125	$\frac{1}{8}/3 \times \frac{1}{2}/13$	51445	—	$\frac{1}{4}/6$
4PBW	$\frac{1}{8}/3 \times \frac{3}{8}/14$	52579	—	$\frac{1}{8}/3$
4PCW	$\frac{3}{8}/2 \times \frac{3}{8}/11$	52591	—	$\frac{1}{8}/3$

## Ball shape



Q10W

Q9W

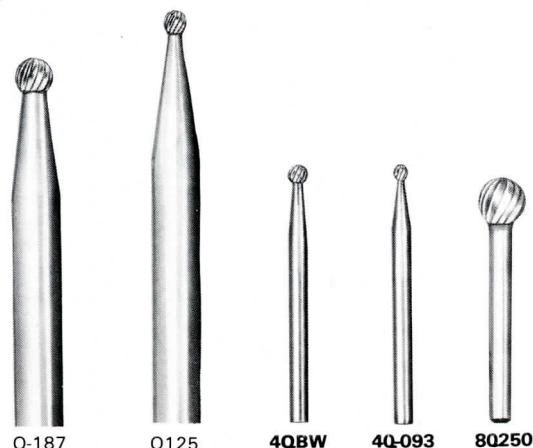
Q7W

Q5W

Q312

Q3W

Ref. No.	Dia. x length " /mm	Catalog & Nida/Sida Numbers		Shank " /mm
		Standard	Diamond Cut Std.	
Q10W	$\frac{3}{4}/19$	51661	—	$\frac{1}{4}/6$
Q9W	$\frac{3}{8}/16$	51649	—	$\frac{1}{4}/6$
Q7W	$\frac{1}{2}/13$	51637	51643	$\frac{1}{4}/6$
Q5W	$\frac{3}{8}/9$	51613	51619	$\frac{1}{4}/6$
Q312	$\frac{5}{16}/8$	51601	—	$\frac{1}{4}/6$
Q3W	$\frac{1}{4}/6$	51589	51595	$\frac{1}{4}/6$



Q-187

Q125

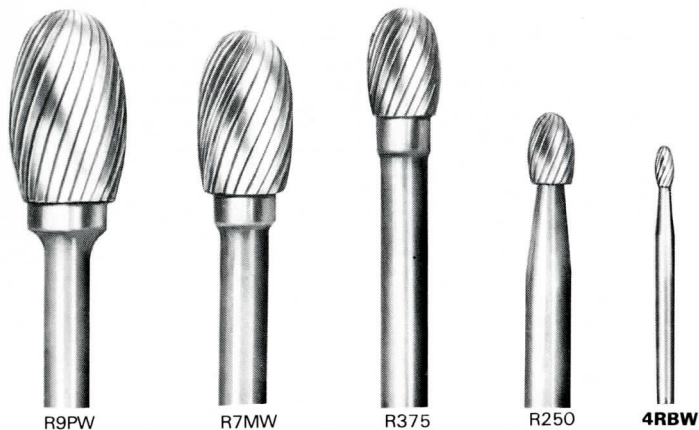
4QBW

4Q-093

8Q250

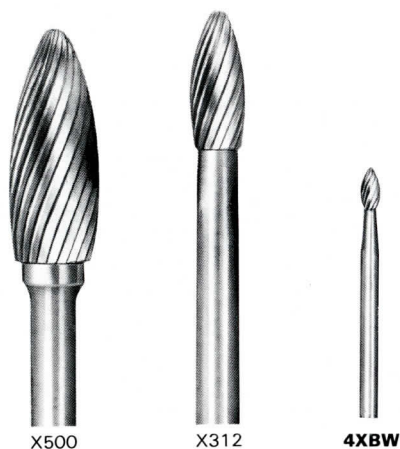
Ref. No.	Dia. x length " /mm	Catalog & Nida/Sida Numbers		Shank " /mm
		Standard	Diamond Cut Std.	
Q187	$\frac{3}{8}/5$	51577	—	$\frac{1}{4}/6$
Q125	$\frac{1}{8}/3$	51565	—	$\frac{1}{4}/6$
4QBW	$\frac{1}{8}/3$	52603	—	$\frac{1}{8}/3$
4Q-093	$\frac{3}{8}/2$	52615	—	$\frac{1}{8}/3$
8Q250	$\frac{1}{4}/6$	53023	—	$\frac{1}{8}/3$

## Oval shape



Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers Standard Diamond Cut Std.	Shank "/mm
R9PW	$\frac{5}{16} \times 1/25$	51721	$\frac{1}{8}$
R7MW	$\frac{1}{4} \times \frac{1}{4} \times 1/22$	51709	$\frac{1}{8}$
R375	$\frac{3}{8} \times \frac{3}{8} \times 1/16$	51697	$\frac{1}{8}$
R250	$\frac{1}{4} \times \frac{1}{4} \times 1/10$	51685	$\frac{1}{8}$
4RBW	$\frac{1}{8} \times \frac{1}{8} \times 5/5$	52627	$\frac{1}{8}$

## Flame shape



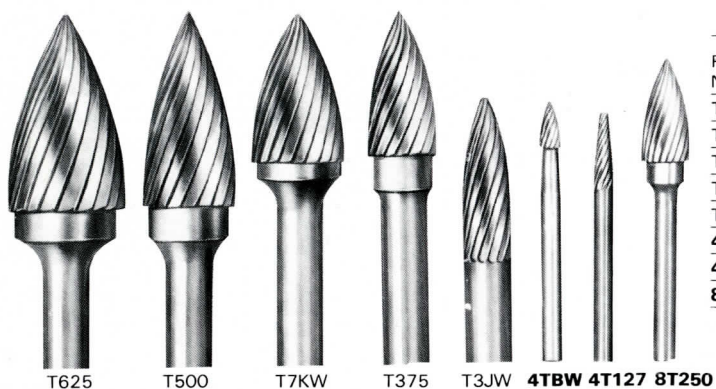
Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers Standard Diamond Cut Std.	Shank "/mm
X500	$\frac{1}{2} \times 13 \times 1 \frac{1}{2} \times 32$	51757	$\frac{1}{8}$
X312	$\frac{1}{4} \times 8 \times \frac{3}{4} \times 19$	51745	$\frac{1}{8}$
4XBW	$\frac{1}{8} \times 3 \times \frac{1}{4} \times 6$	52747	$\frac{1}{8}$

## Tree shape radius end



Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers Standard Diamond Cut Std.	Shank "/mm
S752	$\frac{3}{4} \times 19 \times 1 \frac{1}{2} \times 32$	51973	$\frac{1}{8}$
S625	$\frac{5}{8} \times 16 \times 1/25$	51961	$\frac{1}{8}$
S7PW	$\frac{1}{2} \times 13 \times 1/25$	51949	$\frac{1}{8}$
S5KW	$\frac{3}{8} \times 9 \times \frac{3}{4} \times 19$	51913	$\frac{1}{8}$
S3JW	$\frac{1}{4} \times 6 \times \frac{3}{8} \times 16$	51901	$\frac{1}{8}$
4S125	$\frac{1}{8} \times 3 \times \frac{1}{4} \times 13$	52639	$\frac{1}{8}$
4SBW	$\frac{1}{8} \times 3 \times \frac{1}{4} \times 6$	52651	$\frac{1}{8}$

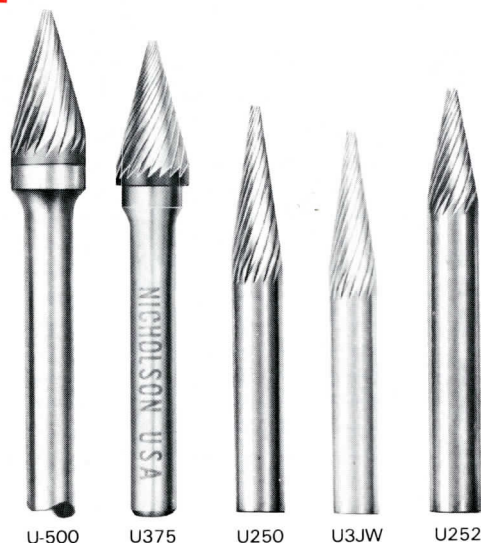
## Tree shape pointed end



Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers Standard Diamond Cut Std.	Shank "/mm
T625	$\frac{5}{8} \times 16 \times 1/25$	52069	$\frac{1}{8}$
T500	$\frac{1}{2} \times 13 \times 1/25$	52057	$\frac{1}{8}$
T7KW	$\frac{1}{2} \times 13 \times \frac{3}{4} \times 19$	52045	$\frac{1}{8}$
T375	$\frac{3}{8} \times 9 \times \frac{3}{4} \times 19$	52033	$\frac{1}{8}$
T3JW	$\frac{1}{4} \times 6 \times \frac{3}{8} \times 16$	52009	$\frac{1}{8}$
4TBW	$\frac{1}{8} \times 3 \times \frac{1}{4} \times 6$	52663	$\frac{1}{8}$
4T127	$\frac{1}{8} \times 3 \times \frac{3}{8} \times 9$	52687	$\frac{1}{8}$
8T250	$\frac{1}{4} \times 6 \times \frac{1}{2} \times 13$	53059	$\frac{1}{8}$



## Cone shape



U-500

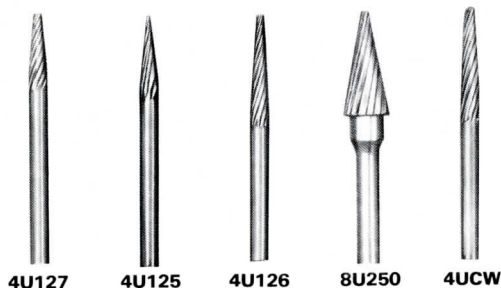
U375

U250

U3JW

U252

Ref. No.	Dia. "/mm	Included Angle	Cat. & N/S Nos. Standard	Shank "/mm
U-500	$\frac{1}{2}/13 \times \frac{1}{8}/22$	28°	52153	$\frac{1}{4}/6$
U375	$\frac{3}{8}/9 \times \frac{5}{16}/16$	28°	52141	$\frac{1}{4}/6$
U250	$\frac{1}{4}/6 \times 1/25$	10°	52129	$\frac{1}{4}/6$
U3JW	$\frac{1}{4}/6 \times \frac{3}{8}/19$	14°	52117	$\frac{1}{4}/6$
U252	$\frac{1}{4}/6 \times \frac{1}{2}/13$	22°	52105	$\frac{1}{4}/6$



4U127

4U125

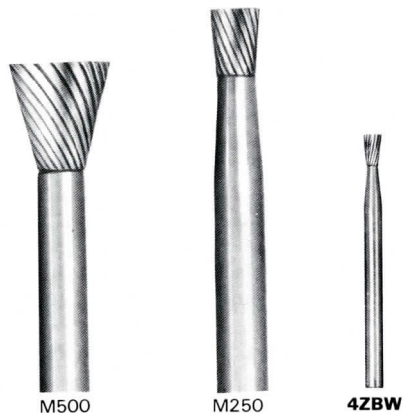
4U126

8U250

4UCW

Ref. No.	Dia. "/mm	Included Angle	Cat. & N/S Nos. Standard	Shank "/mm
4U127	$\frac{1}{8}/3 \times \frac{3}{8}/9$	12°	52699	$\frac{1}{8}/3$
4U125	$\frac{1}{8}/3 \times \frac{7}{16}/11$	14°	52711	$\frac{1}{8}/3$
4U126	$\frac{1}{8}/3 \times \frac{5}{8}/16$	7°	52723	$\frac{1}{8}/3$
8U250	$\frac{1}{4}/6 \times \frac{1}{2}/13$	22°	53071	$\frac{1}{4}/3$
4UCW	$\frac{1}{8}/3 \times \frac{1}{2}/13$	8°	52831	$\frac{1}{8}/3$

## Inverted cone



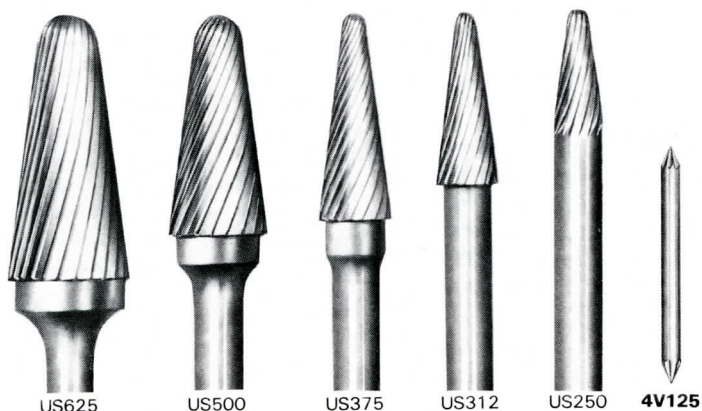
M500

M250

4ZBW

Ref. No.	Dia. x length "/mm x "/mm	Included Angle	Cat. & N/S No. Standard	Shank "/mm
M500	$\frac{1}{2}/13 \times \frac{1}{2}/13$	28°	51817	$\frac{1}{4}/6$
M250	$\frac{1}{4}/6 \times \frac{5}{16}/8$	10°	51793	$\frac{1}{4}/6$
4ZBW	$\frac{1}{8}/3 \times \frac{3}{16}/5$	10°	52771	$\frac{1}{8}/3$

## Cone shape radius end 14° included angle



US625

US500

US375

US312

US250

4V125

Ref. No.	Dia. x length "/mm x "/mm	Catalog & Nida/Sida Numbers Standard	Diamond Cut Std.	Shank "/mm
US625	$\frac{5}{8}/16 \times 1 \frac{1}{8}/33$	52477	—	$\frac{1}{4}/6$
US500	$\frac{1}{2}/13 \times 1 \frac{1}{8}/28$	52465	52471	$\frac{1}{4}/6$
US375	$\frac{3}{8}/9 \times 1 \frac{1}{8}/27$	52453	52459	$\frac{1}{4}/6$
US312	$\frac{1}{4}/8 \times \frac{1}{2}/22$	52441	—	$\frac{1}{4}/6$
US250	$\frac{1}{4}/6 \times \frac{1}{2}/16$	52429	—	$\frac{1}{4}/6$
4V125	$\frac{1}{8}/3 \times 60^\circ$	52735	—	$\frac{1}{8}/3$

## Recommended speeds for Nicholson® carbide burs

**Table No. 1** Approx. recommended speeds for malleable iron—steel welds—cast iron—tool steels—die steels—naval bronze—brass—aluminum, etc.

**Table No. 2** Approx. recommended speeds for stainless steels

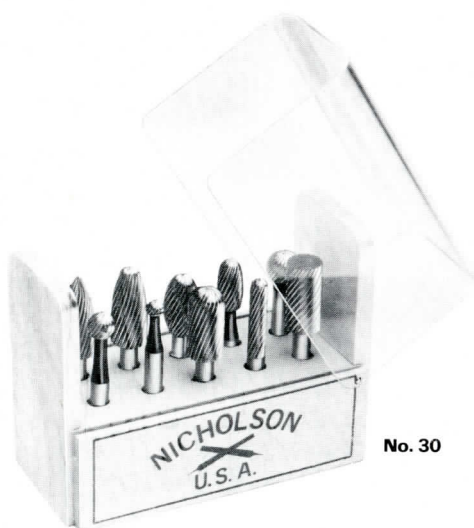
**NOTE:** Diamond Cut burs—reduce speeds by approx.  $\frac{1}{3}$  to  $\frac{1}{2}$ —in corresponding Tables and Cuts shown.

**Caution:** Be sure to chuck bur shank true and to full capacity of the machine chuck.

**Important:** Recommended speeds are applicable only if bur is chucked to full length of shank supplied.

Bur Dia. " /mm	R.P.M. for Standard	
	Table No. 1	Table No. 2
$\frac{1}{8}$ /1.5	50,000	75,000
$\frac{3}{16}$ /2	40,000	60,000
$\frac{1}{4}$ /3	35,000	53,000
$\frac{5}{16}$ /5	25,000	38,000
$\frac{3}{8}$ /6	22,000	33,000
$\frac{7}{16}$ /8	20,000	30,000
$\frac{1}{2}$ /10	18,000	27,000
$\frac{9}{16}$ /11	17,000	26,000
$\frac{5}{8}$ /13	16,000	24,000
$\frac{3}{4}$ /16	15,000	23,000
$\frac{7}{8}$ /19	14,000	21,000
$\frac{15}{16}$ /22	13,000	20,000
1/25	12,000	18,000

## Rotary files and ground burs kits



No. 30



No. 40

### Rotakit for rotary files – No. 30 (51107) $\frac{1}{4}$ " /6mm shanks

Ref. No.	Qty	Description
A3P	1	Cylindrical shape – flat end
A7P	1	Cylindrical shape – flat end
A10K	1	Cylindrical shape – flat end
C3	1	Ball shape
C5	1	Ball shape
D7M	1	Oval shape
F7Q	1	Tree shape – pointed end
G3R	1	Cone shape
L3P	1	Bi-shape
M10J	1	Inverted cone shape

### Rotakit for ground burs – No. 20 (51101) $\frac{1}{4}$ " /6mm shanks

Ref. No.	Qty	Description
N7P	1	Cylindrical shape – flat end
P3P	1	Cylindrical shape – Radius end
P7P	1	Cylindrical shape – Radius end
Q3	1	Ball shape
Q5	1	Ball shape
Q7	1	Ball shape
R5K	1	Oval shape
R7M	1	Oval shape
S7Q	1	Tree shape – Radius end
T7Q	1	Tree shape – Pointed end

### Rotakit for ground burs and rotary files No. 40 (51113) $\frac{1}{4}$ " /6mm shanks

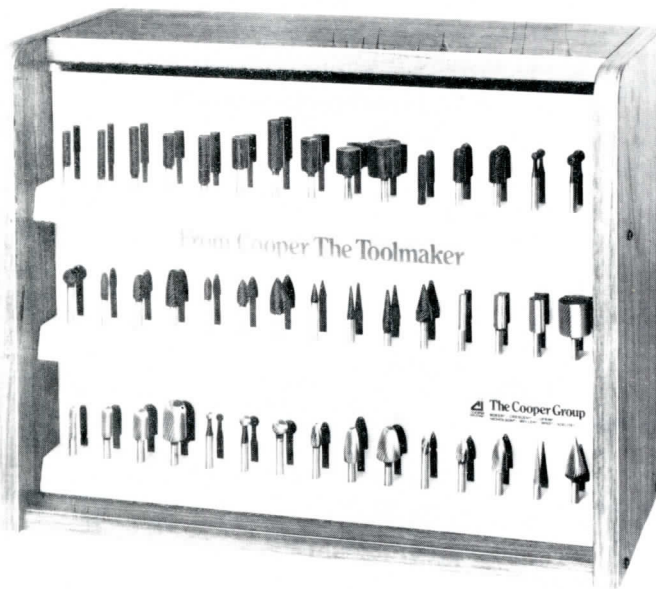
Ref. No.	Qty	Description
<b>Ground Burs</b>		
N7P	1	Cylindrical shape – flat end
P7P	1	Cylindrical shape – radius end
Q7	1	Bell shape
S7Q	1	Tree shape – radius end
T7Q	1	Tree shape – pointed end
<b>Rotary files</b>		
A7P	1	Cylindrical shape – flat end
C5	1	Ball shape
D7M	1	Oval shape
G3R	1	Cone shape
F7Q	1	Tree shape – pointed end



## Select-O-Stand

### RD45 – 1/4" / 6mm shanks

A fast selling group of 45 high speed steel files and burs, all in one bright display designed for easy identification of each tool head. Contains 26 hand cut rotary files and 19 ground burs.



The contents of the RD45 is made up of one each of the following burs:

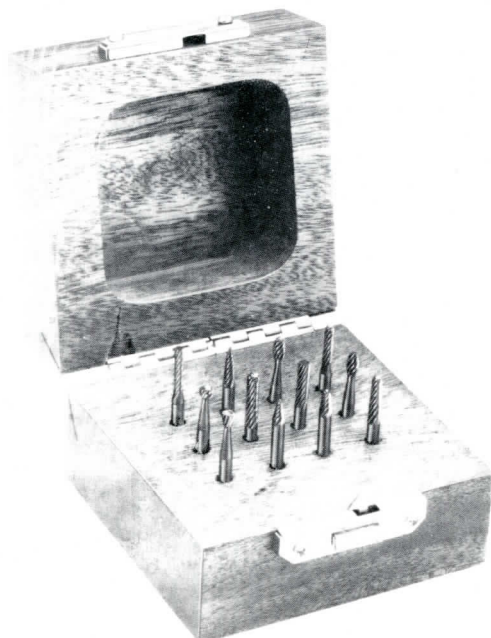
#### Hand Cut Rotary Files

Cat. /N/S No. /No.	Ref. No.	Size " x " /mm x mm	Cat. /N/S No. /No.	Ref. No.	Size " x " /mm x mm
<b>Cylindrical shapes, flat ends</b>			<b>Ball shapes</b>		
50015	A3P	1/4 x 1/6 x 25	50159	C3	1/4 x 1/6 x 19
50027	A3U	1/4 x 1 1/6 x 38	50171	C5	3/8 x 1/10 x 19
50033	A4U	5/16 x 1 1/8 x 38	50177	C7	1/2 x 1/13 x 28
50039	A5P	3/8 x 1/10 x 25	<b>Tree-shaped, radius ends</b>		
50045	A5U	3/8 x 1 1/10 x 38	50243	E3K	1/4 x 3/6 x 19
50051	A7P	1/2 x 1/13 x 25	50249	E5K	3/8 x 3/10 x 19
50057	A7U	1/2 x 1 1/13 x 38	50255	E7Q	1/2 x 1 1/8 x 13 x 28
50063	A9P	5/8 x 1/16 x 25	<b>Tree-shaped, pointed ends</b>		
50075	A10K	1 x 3/19 x 19	50273	F3G	1/4 x 3/6 x 13
50081	A14P	1 x 1/25 x 25	50279	F5K	3/8 x 3/10 x 19
<b>Cylindrical shapes, radius ends</b>			50291	F7Q	1/2 x 1 1/13 x 28
50093	B3P	1/4 x 1/6 x 25	<b>Cone shaped</b>		
50111	B5P	3/8 x 1/10 x 25	50309	G3G	1/4 x 3/6 x 13
50123	B7P	1/2 x 1/13 x 25	50321	G3P	1/4 x 1/6 x 25
			50339	G4P	5/8 x 1/8 x 25
			50351	G7M	1/2 x 3/8 x 13 x 22

#### Ground Burs

Cat. /N/S No. /No.	Ref. No.	Size " x " /mm x mm	Cat. /N/S No. /No.	Ref. No.	Size " x " /mm x mm
<b>Cylindrical shape, flat end</b>			<b>Tree shaped, radius end</b>		
50501	N3P	1/4 x 1/6 x 25	50777	S5K	3/8 x 3/10 x 19
50537	N5P	3/8 x 1/10 x 25	50783	S7Q	1/2 x 1 1/13 x 28
50561	N7P	1/2 x 1/13 x 25	50789	S10P	3/4 x 1/19 x 25
50609	N14P	1 x 1/25 x 25	<b>Tree shaped, pointed end</b>		
<b>Cylindrical shape, radius end</b>			50801	T3G	1/4 x 3/6 x 13
50627	P3P	1/4 x 1/6 x 25	50807	T5K	3/8 x 3/10 x 19
50639	P5P	3/8 x 1/10 x 25	50819	T7Q	1/2 x 1 1/13 x 28
50651	P7P	1/2 x 1/13 x 25	<b>Cone shaped</b>		
50663	P10R	1/2 x 1 1/19 x 32	50855	U3R	1/4 x 1 1/6 x 32
<b>Ball shaped</b>			50879	U7M	1/2 x 3/8 x 13 x 22
50681	Q3	1/4 x 1/6			
50693	Q5	3/8 x 1/10			
50699	Q7	1/2 x 1/13			

## Carbiset No. 100 (53543) solid tungsten carbide 1/8" / 3mm shanks



Ref No.	Qty.	Description
4NBW	1	Cylindrical flat end
4NCW	1	Cylindrical flat end
4PBW	1	Cylindrical radius end
4PCW	1	Cylindrical radius end
4QBW	1	Ball shape
4RBW	1	Oval shape
4SBW	1	Tree shape radius end
4TBW	1	Tree shape pointed end
4T127	1	Tree shape pointed end
4UCW	1	Cone shape
4XBW	1	Flame shape
4ZBW	1	Inverted cone

## Rotasets for $\frac{1}{8}$ " / 3mm shanks



### Rotaset for ground burs No. 55 (51115)

Ref. No.	Qty	Description
4T36	1	Tree shape – pointed end
4R3G	1	Oval shape
4Q5	1	Ball shape
4U1H	1	Cone shape
4X3G	1	Frame shape
4N3G	1	Cylindrical shape – flat end
4P1J	1	Cylindrical shape – radius end
4V9A	1	Cylindrical shape – radius end and edge

### Rotaset for rotary files No. 66 (51117)

Ref. No.	Qty	Description
4F3G	1	Tree shape – pointed end
4D3G	1	Oval shape
4C5	1	Ball shape
4G1H	1	Cone shape
4G3G	1	Cone shape 25°
4A3G	1	Cylindrical shape – flat end
4B1J	1	Cylindrical shape – radius end
4H9A	1	Cylindrical shape-radius end and edge

### Rotaset for ground burs and rotary files No. 77 (51119)

Ref. No.	Qty	Description
<b>Ground burs</b>		
4T3G	1	Tree shape – pointed end
4R3G	1	Oval shape
4Q5	1	Ball shape
4U1H	1	Cone shape
4X3G	1	Flame shape
4N3G	1	Cylindrical shape – flat end
4P1J	1	Cylindrical shape – radius end
4V9A	1	Cylindrical shape – radius end and edge
4Y5C	1	Flat top ball shape
<b>Rotary files</b>		
4F3G	1	Tree shape – pointed end
4D3G	1	Oval shape
4C5	1	Ball shape
4G1H	1	Cone shape
4G3G	1	Cone shape 25°
4A3G	1	Cylindrical shape – flat end
4B1J	1	Cylindrical shape – radius end
4H9A	1	Cylindrical shape – radius end and edge
4A1J	1	Cylindrical shape – flat end



# Nicholson® Hand and Circular Saws

## Handsaws

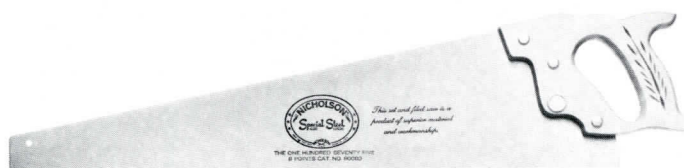
### The three hundred



Preferred by craftsmen and experienced carpenters who appreciate high quality tools. The Silver Steel® constructed blade is fully taper ground with set, expertly filed teeth and back. Wood handle is designed for superb comfort and balance.

Cat. No.	N/S No.	Length " /mm	Crosscut points	Rip points	Width point " /mm	Width butt " /mm	Pack wt. lb/g	Shelf Pack
80013	20/508	10	—	—	1 5/8/41	5 1/2/140	2.63/1193	2
80019	26/660	8	—	—	1 5/8/41	6 1/4/159	3.88/1760	2
80028	26/660	10	—	—	1 5/8/41	6 1/4/159	3.88/1760	2
80044	26/660	12	—	—	1 5/8/41	6 1/4/159	3.88/1760	2
80050	26/660	—	5 1/2	—	1 5/8/41	6 1/4/159	3.88/1760	2

### The one seventy five



A general purpose saw of special steel construction with flat ground blade and ribboned back. Teeth are set and bevel filed. Attractive handle with carved grip has 3 screws and 1 medallion.

Cat. No.	N/S No.	Length " /mm	Crosscut points	Rip points	Width point " /mm	Width butt " /mm	Pack wt. lb/g	Shelf Pack
80074	20/508	10	—	—	1 5/8/41	5 1/2/140	2.5/1134	2
80080	26/660	8	—	—	1 5/8/41	6 1/4/159	3.38/1533	2
80086	26/660	10	—	—	1 5/8/41	6 1/4/159	3.38/1533	2
80092	26/600	—	5 1/2	—	1 5/8/41	6 1/4/159	3.38/1533	2

### The one hundred fifty



A fine quality medium priced handsaw for general cutting. Special steel constructed blade is flat ground; teeth are set and straight filed. Handle is trimmed with 2 screws and 1 medallion.

Cat. No.	N/S No.	Length " /mm	Crosscut points	Width point " /mm	Width butt " /mm	Pack wt. lb/g	Shelf Pack
80098	20/508	10	—	1 5/8/41	5 1/2/140	2.5/1134	2
80104	26/660	8	—	1 5/8/41	6 1/4/159	3.38/1533	2

### The one hundred



A rugged economy saw with built-in quality. Special steel construction blade is flat ground and set. Handle is trimmed with 3 screws. Ideal for home owner and well suited for all uses.

Cat. No.	N/S No.	Length " /mm	Crosscut points	Width point " /mm	Width butt " /mm	Pack wt. lb/g	Shelf Pack
80115	26/660	8	—	1 5/8/41	6 1/4/159	9.69/4395	6
80123	26/660	10	—	1 5/8/41	6 1/4/159	9.69/4395	6

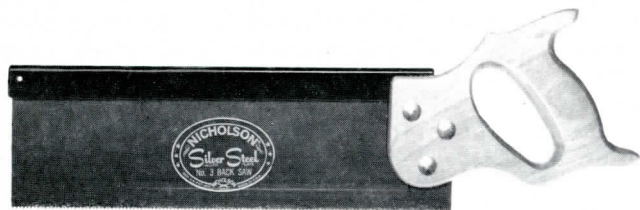
### The fifty



Special steel construction blade is flat ground with set teeth. This general purpose saw has a tough polystyrene handle fitted with 3 screws. Handle design utilizes 45° and 90° angles to help in marking the work piece.

Cat. No.	N/S No.	Length " /mm	Crosscut points	Width point " /mm	Width butt " /mm	Pack wt. lb/g	Shelf Pack
80131	26/660	8	—	1 5/8/41	6 1/4/159	13.5/6123	10

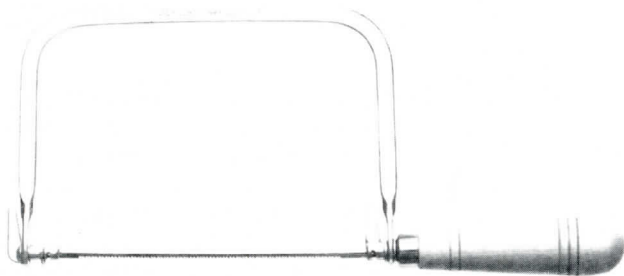
No. 3 Backsaw



A high quality backsaw made of special steel. This saw is a must for every home workshop. Teeth are bevel filed and set. Gun metal blue finish. Fully weather-proofed wood handle has three screw construction.

Cat /N/S No /No	↔ "/mm	Width under back "/mm	Points	Pack wt lb g	Shelf Pack
80151	12/305	3/76	11	3.31 1503	2
80158	14/355	3 1/8/89	11	4.19 1899	2

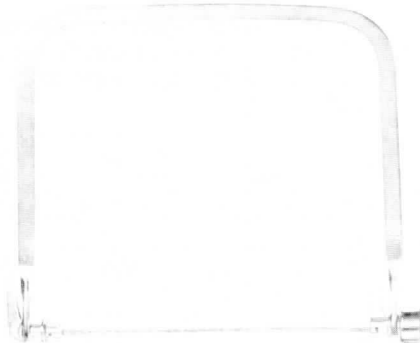
No. 50 Coping saw



Popular coping saw for carpenters and home craftsmen. Throat opening permits cuts up to 4 1/2" / 114mm in depth. Spring steel rounded edge frame has polished finish and adjustable angle blade. Straight type wood handle.

Cat /N/S No /No	↔ "/mm	Blade length "/mm	Blade width "/mm	Points	Pack wt lb g	Shelf Pack
80170	12 1/2/317	6 1/2/165	1 1/8/3.77	15	4.81 2183	10

No. 60 Coping saw



Deep-throated coping saw for cutting sharp angles and curves. Throat opening 6 1/2" / 165mm. Spring steel rounded edge frame has polished finish and adjustable angle blade. Straight type wood handle.

Cat /N/S No /No	↔ "/mm	Blade length "/mm	Blade width "/mm	Points	Pack wt lb g	Shelf Pack
80176	12 1/2/324	6 1/2/165	1 1/8/3.17	15	7.00 3175	10

No. 50/60 Coping saw blades



6 1/2" / 165mm long, 15 points, pin end. Will fit No. 50 and No. 60 frames.

Cat /N/S No /No	"/mm	Blade width "/mm	Points	Pack wt lb g	Shelf Pack
80182	6 1/2/165	1 1/8/3.17	15	0.56 255	100



## No. 10 Compass saw



For carpenters and craftsmen who want the finest in wood cutting compass saws. Silver Steel® construction. Comfort design wood handle is assembled with stud and wing nut for easy interchange of blades.

Cat. No.	N/S No.	Ref. No.	Length " / mm	Points	Pack lb / g	Shelf Pack
80188		10	12/305	9	3.63/1644	6
80195		10	14/354	9	3.69/1673	6
<b>Blade only</b>						
80201		10	12/305	9	1.75/794	12
80208		10	14/354	9	2.00/907	12

## No. 30 Compass saw



A quality saw for home owners. Special high impact polystyrene handle. Blade is tapered to point for cutting sharp curves. Wing nut assembly permits easy blade interchange or reversal.

Cat. No.	N/S No.	Ref. No.	Length " / mm	Points	Pack wt. lb / g	Shelf Pack
80215		30	12/305	9	2.25/1021	6
80221		30	14/354	9	2.5/1134	6
<b>Blade only</b>						
80227		30	12/305	9	1.5/680	12
80233		30	14/354	9	2.0/893	12

## No. 6 Keyhole saw



A professional saw designed for intricate close inside work such as keyholes and frets. Silver Steel® blade is tapered to a sharp point and is bevel filed for faster cuts. Blade assembled to wood handle with stud, wing nut and washer.

Cat. No.	N/S No.	Ref. No.	Length " / mm	Points	Pack wt. lb / g	Shelf Pack
80239		6	10/254	10	3.19/1446	6
<b>Blade only</b>						
80245		6	10/254	10	0.94/425	12

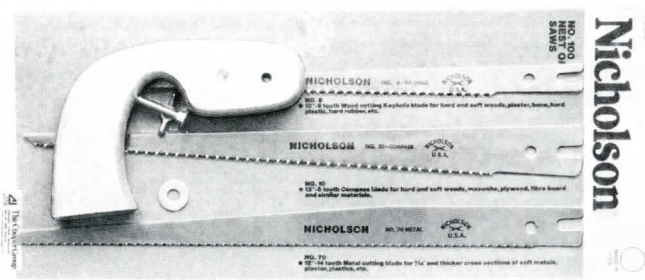
## No. 31 Keyhole saw



Same superior quality blade as the No. 6 but with the patented "aimed control" pistol grip molded black handle.

Cat. No.	N/S No.	Ref. No.	Length " / mm	Points	Pack wt. lb / g	Shelf Pack
80251		31	10/254	10	2.00/907	6
<b>Blade only</b>						
80245		31	10/254	10	0.94/425	12

No. 100 Nest of saws



This multi-purpose nest of saws comes with three interchangeable saw blades: 12"/305mm compass, 10"/254mm keyhole and a 12"/305mm metal-cutting. Silver Steel® constructed blades are easily interchangeable. Comfort design wood handle is assembled with stud, wing nut and washer.

Contents:

Cat. No.	N/S No.	Ref. No.	Description	Length "/mm	Points	Pack wt. lb/g	Shelf Pack
80167	100		Nest (complete)	—	—	3.88/1758	4
80245	6		Keyhole blade only	10/254	10	0.94/425	12
80201	10		Compass blade only	12/305	9	1.75/794	12
80168	70		Metal blade only	12/305	15	1.88/850	12
80354	85H		Wood handle	—	—	1.88/850	5

Pruning saws  
No. 20 Curved pruner



An excellent general purposes pruner for fast cutting of small limbs. A favorite in citrus groves and vineyards. Silver Steel constructed blade with polished finish. Has convenient hang-up hole. Easy-to-grip knife-type wood handle is trimmed with aluminum screws.

Cat. No.	N/S No.	Reverse rip points	Point width "/mm	Butt width "/mm	Pack wt. lb/g	Shelf Pack
80263	14/354	7	7/8 / 14.28	2 1/2 / 63	3.19/1446	6

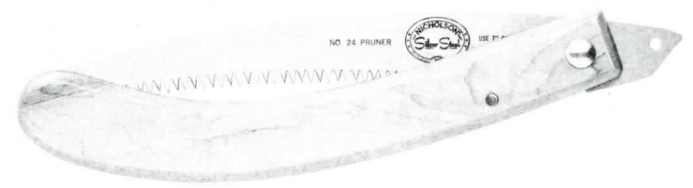
No. 316 Double edge pruner



Lightweight economy pruner with dual-purpose cutting edges. Fine teeth on one edge for light trimming, lightning teeth on other edge for heavier limbs. Special steel construction. Comfort grip wood handle.

Cat. No.	N/S No.	Points	Point width "/mm	Butt width "/mm	Pack wt. lb/g	Shelf Pack
80269	16/406	8 (fine edge) 8.73mm / 1/3 Pitch lightning (2nd edge)	7/8 / 23.01	2 1/2 / 63	5.00/2268	6

No. 24 Folding pruner



This safe-design fine tooth pruner features a sure grip wood handle that folds to protect the cutting edge. Perfect for camping and toolbox storage. A must for every gardener.

Cat. No.	N/S No.	Cross-cut points "/mm	Point width "/mm	Butt width "/mm	Pack wt. lb/g	Shelf Pack
80275	10/254	6 1/2 / 165	1/2 / 12.70	1 1/8 / 49	4.50/2041	6



## No. 14 Silver flash pruner



The best heavy duty performer of any pruning saw made, this Silver Steel® blade has extra large teeth and gullets for speed cutting of large limbs. Concave cutting edge is precision set and beveled filed and cuts fast on the pull stroke. Blade is flat ground with wood handle, trimmed with aluminum screws. Preferred by utility crews and tree surgeons.

Cat. /N/S No. /No.	Point width "/mm	Butt width "/mm	Pack wt. lb/g	Shelf Pack
80299	26/660	1 1/2 /36	3 5/8 /84	10/4536

## No. 420 Tuttle tooth pruner

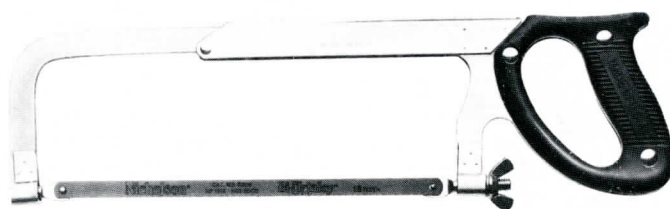


Handy all purpose saw for general pruning requirements. Teeth designed for fast cutting of large limbs and firewood. Special steel construction blade has wood handle trimmed with three screws. Ideal for campers.

Cat. /N/S No. /No.	Point width "/mm	Butt width "/mm	Pack wt. lb/g	Shelf Pack
80305	20/508	1 1/8 /28.57	4 7/8 /124	7.25/3289
80309	24/610	1 1/8 /28.57	4 7/8 /124	10.63/4822

## Hand hacksaw frames

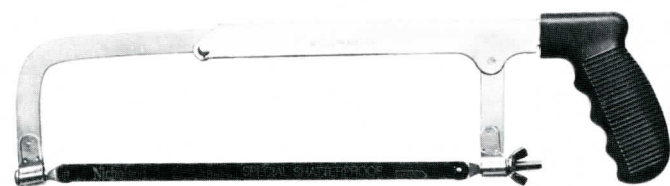
### No. 10 Hacksaw frame



Our finest hacksaw frame is corrosion proof, polished nickel with 3 3/8" /86mm throat, adjustable for 10" /254mm or 12" /305mm blades. Molded plastic handle. Blade holding bolts are adjustable to four positions. Rear bolt has wing nut for easy tensioning of blade. Each frame is individually packed and equipped with a 10" /254mm Nicholson® blade.

Cat. /N/S No. /No.	Type	Blade "/mm	Pack wt. lb/g	Shelf Pack
80952	Adjustable	10/254	1 1/4 /794	1

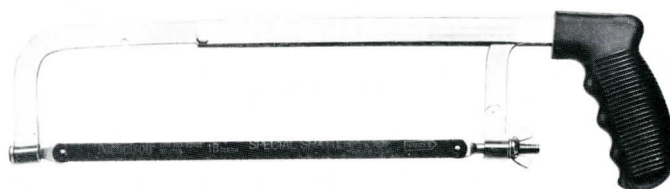
### No. 9 Hacksaw frame



Sturdy, bright nickel frame with 3 1/2" /89mm throat. Adjusts for 10" /254mm or 12" /305mm blade in four positions. Molded handle is open pistol grip design. Blade holding bolt is equipped with large wing nut tightener. Assembled with 10" /254mm Nicholson® blade.

Cat. /N/S No. /No.	Type	Blade "/mm	Pack wt. lb., oz/g	Shelf Pack
80958	Adjustable	10/254	6, 10 1/2 /3005	6

### No. 7 Hacksaw frame



Nicholson's economy frame is designed for the hobbyist with only occasional need for a hacksaw. Sturdy, polished nickel frame with 2 3/4" /70mm throat adjusts to 10" /254mm and 12" /305mm blades. Has pistol grip handle of molded plastic.

Cat. /N/S No. /No.	Type	Blade "/mm	Pack wt. lb/kg	Shelf Pack
80964	Adjustable	10/254	9 1/4 /4.20	10

## Little-Nic® utility hacksaw



For professionals and home owners. Gets into small places – makes difficult cutting jobs easy. Comes complete with high-quality Nicholson SS1024 hacksaw blade. Uses any flexible hacksaw blade. Overall length 11" / 279mm so it fits into any tool box. Blister packed on attractive cards with suggested uses on back.

Cat. /N/S No. /No.	Blade "/mm	Pack wt. lb/g	Shelf Pack
80968	10/254	1 3/8/652	6

## Saw accessories

### 1S Handsaw screw



Nickel-plated steel handsaw screw, oval head with nut.

Cat. /N/S No. /No.	Ref. No.	Pack wt. lb/g	Shelf Pack
80386	1S	0.36/163	12

### 10SN Handsaw screw



Nickel-plated steel handsaw screw with nut. Nicholson medallion.

Cat. /N/S No. /No.	Ref. No.	Pack wt. lb/g	Shelf Pack
80393	10SN	0.60/272	12

## F10A and F9A Hacksaw frame assembly

Front and rear stud with washer and wing nuts.

Cat. /N/S No. /No.	Ref. No.	Assembly For	Shelf Pack
80397	F10A	No. 10 Hacksaw frame	1
80398	F9A	No. 7 & 9 Hacksaw frame	1

## Replacement handles

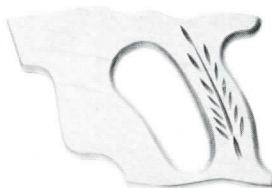
### 71-H handle



71-H handle is bored, slotted hardwood with apple stain finish. Fits 20" / 508mm or 26" / 661mm handsaws.

Cat. /N/S No. /No.	Ref. No.	Wt. each lb/g	Shelf Pack
80341	71-H	0.56/225	5

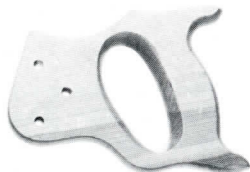
### 72-H handle



72-H handle is not bored. Slotted hardwood with natural finish. Fits 20" / 508mm or 26" / 661mm handsaws.

Cat. /N/S No. /No.	Ref. No.	Wt. each lb/g	Shelf Pack
80343	72-H	0.58/262	5

### 83-H handle



Bored handle. Fits 12" / 305mm and 14" / 355mm back saws.

Cat. /N/S No. /No.	Ref. No.	lb/g	Shelf Pack
80356	83-H	—	5

### 85-H handle



Compass/Keyhole saws. Bored. Fits No. 10 and No. 30 compass saw, No. 6 and No. 31 keyhole saw, and No. 100 nest of saws.

Cat. /N/S No. /No.	Ref. No.	lb/g	Shelf Pack
80354	85-H	—	5



## Hand hacksaw blades

### Bi-Metalloy® – carded

Nicholson®

CAT. NO. 62801  
NF 1018 SP HSS EDGE

Lasts twice as long as high speed steel and up to ten times longer than carbon steel. With exceptional combination of tooth hardness and shock resistance these blades can operate 20% to 50% faster resulting in lower costs per cut.

Ref. No.	Type	Carded Cat. / N/S No.	Boxed Cat. / N/S No.	Length "/mm	Width "/mm	Gauge "/mm	Teeth Per Inch	Wt. per 100 lb/g
NF(NM)1018	Raker	62801	62635	10/254	½/12.70	.025/0.650	18	3½/1585
NF(NM)1024	Wavy	62807	62659	10/254	½/12.70	.025/0.650	24	3½/1585
NF(NM)1032	Wavy	62813	62683	10/254	½/12.70	.025/0.650	32	3½/1585
NF(NM)1214	Raker	62819	62706	12/304	½/12.70	.025/0.650	14	4¼/1925
NF(NM)1218	Raker	62825	62723	12/304	½/12.70	.025/0.650	18	4¼/1925
NF(NM)1224	Wavy	62831	62749	12/304	½/12.70	.025/0.650	24	4¼/1925
NF(NM)1232	Wavy	62837	62776	12/304	½/12.70	.025/0.650	32	4¼/1925

Carded: 1 blade per card – 10 cards per unit box – 5 unit boxes per carton  
Boxed: packaged 100 blades per box.

## Bi-Metalloy® Tungsten Silver Steel®

Nicholson®

CAT. NO. 62967  
NT 1018 TUNGSTEN

This is definitely not a general use blade. On the contrary, it is premium priced because it is specifically made for cutting the toughest materials with maximum efficiency.

While a relatively small percentage of all cutting jobs require the premium qualities built into the Tungsten blade, those jobs that do fall into that category make its selection advantageous. It is extremely effective on stainless steels, high manganese steels and certain bronzes.

When the work calls for this blade, it is a profitable investment in production efficiency. Blades are produced to exacting specifications and inspected to insure high quality.

Ref. No.	Type	Boxed Cat. & N/S No.	Length "/mm	Width "/mm	Gauge "/mm	Teeth per Inch	Wt. per 100 in lb/g
NT1018	Raker	62967	10/254	½/12.70	.025/.65	18	3½/1585
NT1024	Wavy	62982	10/254	½/12.70	.025/.65	14	3½/1585
NT1032	Wavy	62997	10/254	½/12.70	.025/.65	32	3½/1585
NT1214	Raker	63012	12/304	½/12.70	.025/.65	14	4¼/1925
NT1218	Raker	63027	12/304	½/12.70	.025/.65	18	4¼/1925
NT1224	Wavy	63042	12/304	½/12.70	.025/.65	24	4¼/1925
NT1232	Wavy	63058	12/304	½/12.70	.025/.65	32	4¼/1925

Packaged 100 blades per box.

## Special shatterproof standard flexible – for thin stock

Specially hardened to induce toughness. Because of this extreme toughness, one tooth coarseness greater than that normally recommended can be used. Thus the cutting speed on thin stocks can be increased. Note, however, that this blade is not recommended for higher carbon or alloyed steels.

# NICHOLSON

Ref. No.	Type	Carded Cat. No. / N/S No.	Boxed Cat. No. / N/S No.	Length "/mm	Width "/mm	Gauge "/mm	Teeth Per Inch	Wt. per 100 lb/kg
SS1018	Raker	63208	63103	10/254	1/2/12.70	.025/.65	18	3 1/2/1585
SS1024	Wavy	63220	63112	10/254	1/2/12.70	.025/.65	24	3 1/2/1585
SS1032	Wavy	63232	63124	10/254	1/2/12.70	.025/.65	32	3 1/2/1585
SS1214	Raker	63244	63136	12/304	1/2/12.70	.025/.65	14	4/1812
SS1218	Raker	63256	63145	12/304	1/2/12.70	.025/.65	18	4/1812
SS1224	Wavy	63268	63158	12/304	1/2/12.70	.025/.65	24	4/1812
SS1232	Wavy	63280	63171	12/304	1/2/12.70	.025/.65	32	4/1812

Packaged 100 blades per box.

## Sabre saw blades

No. 1



No. 2



No. 3



No. 4



No. 5



No. 6



No. 7



No. 8



No. 9



No. 10



The complete line of Nicholson® flame hardened steel blades resists breakage, gives longer life and assures clean and accurate cutting. Blades are available for cutting woods, metals, laminates and wallboard in coarse, medium and fine tooth styles. Universal 1/4"/6 mm shanks fit all popular makes of sabre saws. Ideal for home and professional use.

Ref. No.	Cat. No. / N/S No.	Blade Type	Card wt. oz/g	Blades Per card
1	81036	Metal/wood 3 1/2" /89mm long 14 T.P.I.	6/170	2
2	81043	Metal Cutting 3" /76mm long 24 T.P.I.	4/113	2
3	81050	Wood Cutting 3 1/2" /89mm long 7 T.P.I.	6/170	2
4	81057	Wood Cutting 3 1/2" /89mm long 10 T.P.I.	6/170	2
5	81064	Taper Back 3" /76mm long 10 T.P.I.	4/113	2
6	81071	Scroll Sawing 3" /76mm long 10 T.P.I.	4/113	2
7	81078	Metal Cutting 3" /76mm long 32 T.P.I.	4/113	2
8	81085	Wood Cutting 6" /152mm long 7 T.P.I.	8/227	1
9	81091	Knife Blade 3" /76mm long	4/113	2
10	81094	Flush Cutting 3 1/2" /89mm long 7 T.P.I.	8/227	1

Skin packed on cards. 10 cards per box. Approximate weight 1/2 lb/226g/carton.



## Sabre saw blade assortment



Ideal popular sabre saw blade units packed in a convenient plastic pouch. A saw blade for every cutting need from rough wood and laminates to tubing, conduit and fine gauge metal. Universal  $\frac{1}{4}$ " / 6.35mm shank to fit all popular sabre saws. See table on previous page for blade number description.

Cat. No.	N/S No.	Ref. No.	Contents	Wt. each lb/g	Shelf Pack
81103		NS-6	1, 2, 3, 4, 5, 7	1/452	10
81106		NS-3	3, 5, 7	1/226	10

## Hacksaw comparison chart

Hand Hacksaw Blades				
Manufacturers	Bi-Metalloy®	All Hard Mo.	All Hard Tungsten	Standard Steel Flexible
<b>Nicholson®</b>	<b>Flex Mo.</b>	<b>All Hard Mo.</b>	<b>All Hard Tung.</b>	<b>Flex Standard</b>
American Saw (Lenox)	Hackmaster	Mo-Speed	—	Standard
Armstrong-Blum (Marvel)	Exempler	—	—	Carbon 60
Stanscrew/Capewell (Capewell)	Safe Tech	Technite	Tungsten	Flex-Tung
Clemson Bros. (Star)	Molyflex	Moly	Tungsten	—
Diamond Saw (Sterling)	Super Sterling	—	—	Flexible
Disston, Inc.	Super Safe Tungsten	Di-Mol	Tungsten	Dura-Flex
DoAll	Safety	Molybdenum	18% Tungsten	Flexible
Ladish Company	Moly Flexible	Moly Hard	Tungsten	Flexible
Millers Falls	Blu-Flex	Blu-Mol	High Speed (18-4-1)	Tuf Flex
Simonds Cutting Tools	H.S.S. Shatter Proof	—	—	Standard
Spartan Saw Works	Saf-T-Saw	Kutall	—	Flexible
L. S. Starrett Company	Green-Stripe Safe-Flex	Red-Stripe S-M High Spd	Blue-Stripe	Grey-Flex
H. G. Thompson (Milford)	Flex. Rezistor	All Hard Rezistor	—	Flexible
Victor Saw Works	Molyflex	Moly	Tungsten	—
Power Hacksaw Blades				
Manufacturers	High Speed Molybdenum	High Speed Tungsten	High Speed Weld-Edge	
<b>Nicholson</b>	<b>*All Hard Mo.</b>	<b>All Hard</b>	<b>Weld Edge Shatterproof</b>	
American Saw (Lenox)	—	—	Hackmaster	
Armstrong-Blum (Marvel)	—	—	High Spd Edge	
Standcrew/Capewell (Capewell)	Technite	—	Safe Tech	
Clemson Bros. (Star)	Star Moly	Tungsten	Molyflex	
Diamond Saw (Sterling)	Molybdenum	Tungsten	Welded Edge	
Disston, Inc.	Di-Mol	Tungsten	Super Safe Di-Cro-Cut	
DoAll	Molybdenum	18% Tungsten	Safety	
Ladish Company	All Hard	Tungsten	Welded Edge	
Millers Falls	Blu-Mol	—	Jet-Edge	
Simonds Cutting Tools	Molybdenum	Tungsten	Weld-Edge	
Spartan Saw Works	Kutall	—	Saf-T-Saw	
L. S. Starrett Company	Red-Stripe	Blue-Stripe	Safe-Flex	
H. G. Thompson (Milford)	All Hard Rezistor	—	Weld-Edge	
Victor Saw Works	Moly	Tungsten	Molyflex	

\* Also available in flexible high speed (molybdenum).

# Hand hacksaw blades

## Care and servicing

### Blade breakage

1. Lack of tension. Tighten until taut.
2. Too much tension. Loosen slightly.
3. Cutting in awkward position. Use flexible type blades.
4. Jamming in cut. Hold work securely – stock should fall free after cut. In soft material teeth may be binding because they are too fine.

### Pinhole breakage

1. Too much tension. Loosen slightly.
2. Worn pins causing pressure on eyeholes. Replace pins.

### Rounded teeth – premature wear

1. Blade not cutting. Use slower stroke and apply heavier feed.
2. Dragging on return stroke. Lift saw.
3. Material too hard. Select proper blade.

### Crooked cutting

1. Too much pressure. Reduce feed.
2. Blade out of alignment. Check frame and blade tension.
3. Blade worn out. Replace.

### Tooth breakage

1. Teeth too coarse. Keep 3 in the work.
2. Too much feed, teeth loading. Ease feed pressure.
3. Teeth too fine, clogging. Change to coarser tooth.
4. Starting cut on sharp corner. Reposition work.

### General tooth recommendations

14 Tooth: For cutting stock  $1\frac{1}{8}$ " / 25.40mm or over in cross section. For soft materials where maximum chip clearance is needed.

18 Tooth: For general shop use, when same blade is used on several jobs.

24 Tooth: For cross section  $\frac{1}{8}$ " / 1.58mm –  $\frac{1}{4}$ " / 6.35mm such as pipe, angles, small drill rod.

32 Tooth: To cut stock up to  $\frac{1}{8}$ " / 1.58mm such as light tubing, sheet metal, BX.

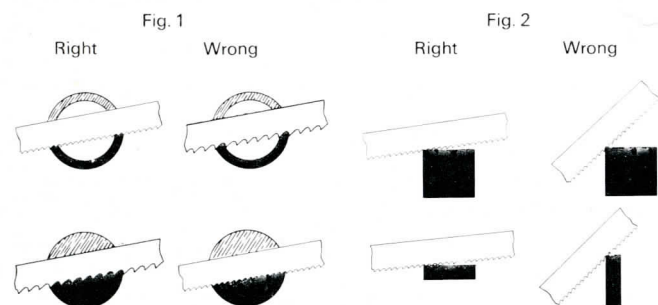
At least two teeth should be in contact with the work at all times.

### Choose the right number of teeth per inch

The sketches below (figure 1) show how coarseness of teeth affects blade efficiency. See maximum speeds recommended at right. Speed varies according to material being cut and saw blade coarseness.

### Starting the cut

If possible, avoid starting cut on a sharp corner. When unavoidable, begin with light pressure and use a steady forward stroke. As many teeth as possible should be in contact with the cutting area and at least two teeth must be engaged. Note cutting angles shown below.



# Solutions to hacksaw blades problems

### Blade breakage

1. Dropping blade on work. Feed blade into work slowly.
2. Loose blade. Follow tension recommendations.
3. Excessive feed. Reduce pressure.
4. New blades used in old cut. Reverse stock.
5. Blade binds at end of cut. Allow loose piece to fall away.

### Pinhole breakage

1. Dirty mounting plates. Clean blade and holder to obtain snug fit.
2. Too much tension. Reduce blade tension.
3. Worn mounting plates and pins. Replace parts.

### Stripped teeth

1. Clogging. Too many teeth per inch; change to coarser tooth.
2. Shock. Teeth too coarse; change to finer tooth blade.
3. Blade entering work at a sharp edge. Reposition work to insure keeping three teeth in work.
4. Excessive feed pressure. Reduce pressure.
5. Material unstable, not properly clamped. Secure properly.

### Premature tooth wear

1. Blade reversed in saw. Teeth should be in same direction as cutting stroke.
2. Wrong blade for the job. Refer to tooth selector chart on page 82 and blade descriptions on pages 82, 83 and 84.
3. No cutting lubricant. Use lubricant on all materials except paper and cast iron.
4. Blade drags on return stroke. Make sure blade lifts for return stroke.
5. Too much heat generated by excessive speed. Reduce speed.
6. Excessive feed pressure. Moderate pressure produces longer tooth life.
7. Teeth just rubbing material. Due to insufficient feed. Increase feed.

### Crooked cutting

1. Worn blade. Replace.
2. Loose blade. Check for correct tension.
3. Excessive pressure. Use correct rate of feed.
4. Material unstable. Clamp stock securely.
5. Frame out of alignment. Check and adjust machine.
6. Hard spots in material. Reverse stock and start new cut.

## Nicholson® hand hacksaw tooth selector

Material	Teeth	Strokes Per Minute
<b>Ferrous</b>		
* BX	32	60
* Conduit, Rigid	24	60
Drill Rod	18-24	40
Iron, Cast	14	60
* Pipe	24	60
Rails	14	40
* Sheet Metal	24-32	60
Steel, Machinery	14-18	60
Steel, Tool	18-24	50
Structural Shapes, Heavy	18	60
Structural Shapes, Light	24	60
* Tubing, Light	32	60
<b>Non-Ferrous</b>		
Aluminum	14	60
Brass and Bronze	14-24	60
* Brass Tubing	24	60
Copper	14	60
Structural Shapes	14-24	60
<b>Non-Metals</b>		
Asbestos	14	60
Fiber	14	60
Slate	14	50

\* Special shatterproof blades of coarser teeth than specified may be used with excellent results on thin sections. See page 61.

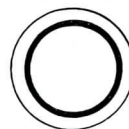


## Magicut® circular saw blades

Made of the finest alloy chrome nickel molybdenum steel. Precision ground to exacting standards. Blades stay sharper longer and resist rust. Cut smoother with less friction than ordinary steel blades. Blades can be reset and filed. Teeth individually set and sharpened. Precision arbor fit. Fits all popular saws with  $\frac{5}{8}$ ",  $\frac{1}{2}$ " or diamond arbors. Sold in full box quantities only.

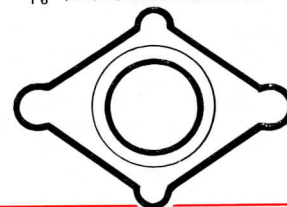
### ROUND

$\frac{5}{8}$ " / 15.87mm to  $\frac{1}{2}$ " / 12.70mm  
 $\frac{3}{4}$ " / 19mm to  $\frac{5}{8}$ " / 16mm  
 1" / 25.4mm to  $\frac{3}{4}$ " / 19mm

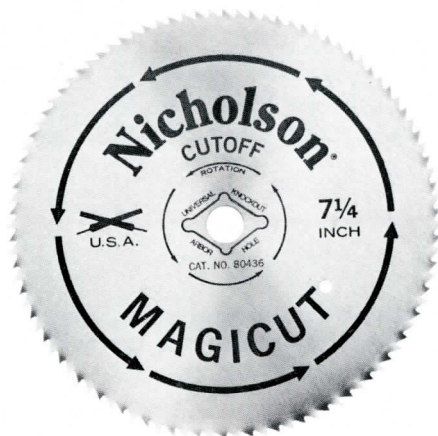


### UNIVERSAL

$\frac{5}{8}$ " / 16mm to  $\frac{1}{2}$ " / 12.7mm  
 $\frac{1}{8}$ " / 20.6mm Diamond



## Cut off (flat ground)



Ideal for fast smooth cutting across the grains of hard or soft wood, sheeting, flooring and wood molding. Easily resharpened.

Cat. /N/S No. /No.	Blade dia. "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80406	6/152	Universal	100	5.38/2437	10
80415	6 1/2/165	Universal	100	6.38/2890	10
80425	7/178	Universal	100	7.69/3483	10
80436	7 1/4/184	Universal	100	8.13/3682	10
80446	8/203	Universal	100	10.94/4955	10
80453	9/228	$\frac{5}{8}$ /15.87 x $\frac{1}{2}$ /12.70 round	100	6.13/2776	5
80456	10/254	$\frac{3}{4}$ /19.05 x $\frac{5}{8}$ /15.87 round	100	8.94/4049	5
80463	12/305	1/25.40 x $\frac{3}{4}$ /19.05 round	100	2.88/1304	1

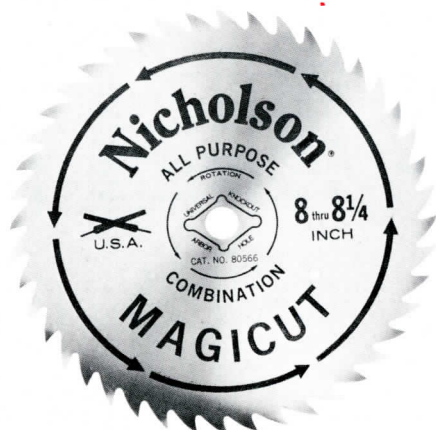
## Rip (flat ground)



For cutting hard and soft woods with the grain. Teeth set for clearance. Easily resharpened.

Cat. /N/S No. /No.	Blade dia. "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80470	6/152	Universal	36	5.38/2437	10
80479	6 1/2/165	Universal	36	6.38/2890	10
80488	7/178	Universal	36	7.69/3483	10
80497	7 1/4/184	Universal	36	8.13/3682	10
80506	8/203	Universal	36	10.94/4955	10
80512	9/228	$\frac{5}{8}$ /15.87 x $\frac{1}{2}$ /12.70 round	36	6.13/2776	5
80515	10/254	$\frac{3}{4}$ /19.05 x $\frac{5}{8}$ /15.87 round	36	8.94/4049	5
80522	12/305	1/25.40 x $\frac{3}{4}$ /19.05 round	36	2.88/1304	1

## All purpose combination (flat ground)



Designed for smooth cutting in any direction through all types of wood. Easily resharpened.

Cat. /N/S No. /No.	Blade dia. "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80529	6/152	Universal	40	5.38/2437	10
80538	6 1/2/165	Universal	44	6.38/2890	10
80547	7/178	Universal	44	7.69/3483	10
80557	7 1/4/184	Universal	44	8.13/3682	10
80566	8/203	Universal	44	10.94/4955	10
80575	9/228	$\frac{5}{8}$ /15.87 x $\frac{1}{2}$ /12.70 round	44	6.13/2776	5
80583	10/254	$\frac{3}{4}$ /19.05 x $\frac{5}{8}$ /15.87 round	44	8.94/4049	5
80591	12/305	1/25.40 x $\frac{3}{4}$ /19.05 round	48	2.88/1304	1

## Chisel tooth combination (flat ground)



For fast rugged general purpose cutting. Rips, crosscuts, miters hard and soft wood, wallboard, and heavy construction gauge plywood. Easily resharpened.

Cat. / N/S No. / No.	Blade dia. " / mm	Arbor hole " / mm x " / mm	Teeth	Pack wt. lb/g	Shelf Pack
80595	5 1/2 / 139	12.70 / 1/2 round	20	5.00/2267	10
80598	6 / 152	Universal	20	5.38/2437	10
80607	6 1/2 / 165	Universal	20	6.38/2890	10
80616	7 / 178	Universal	24	7.69/3483	10
80626	7 1/4 / 184	Universal	24	8.13/3682	10
80636	8 / 203	Universal	30	10.94/4955	10
80642	9 / 228	3/8 / 15.87 x 1/2 / 12.70 round	30	6.13/2776	5
80646	10 / 254	3/4 / 19.05 x 3/8 / 15.87 round	36	8.94/4049	5
80653	12 / 305	1 / 25.40 x 3/4 / 19.05 round	40	2.88/1304	1

## Planer combination (flat ground)

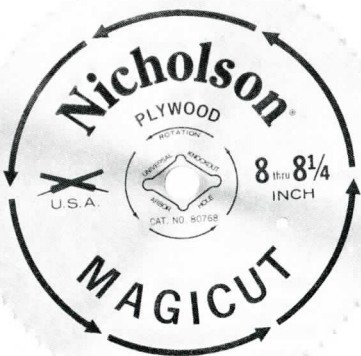


Economical blade for smooth cross cutting, ripping and mitering. Fast cutting teeth are set for clearance. Can be resharpened.

Cat. / N/S No. / No.	Blade dia. " / mm	Arbor hole " / mm x " / mm	Teeth	Pack wt. lb/g	Shelf Pack
80660	6 / 152	Universal	10 st.	5.38/2437	10
80669	6 1/2 / 165	Universal	10 st.	6.38/2890	10
80678	7 / 178	Universal	12 st.	7.69/3483	10
80687	7 1/4 / 184	Universal	12 st.	8.13/3682	10
80696	8 / 203	Universal	14 st.	10.94/4955	10
80705	9 / 228	3/8 / 15.87 x 1/2 / 12.70 round	16 st.	6.13/2776	5
80714	10 / 254	3/4 / 19.05 x 3/8 / 15.87 round	16 st.	8.94/4049	5
80722	12 / 305	1 / 25.40 x 3/4 / 19.05 round	18 st.	2.88/1304	1

st. = sections

## Plywood (flat ground)



Smooth, economical cutting of paneling, plywood and laminates. Also used where occasional nails are found, such as old flooring. Easily resharpened.

Cat. / N/S No. / No.	Blade dia. " / mm	Arbor hole " / mm x " / mm	Teeth	Pack wt. lb/g	Shelf Pack
80727	5 1/2 / 139	1/2 / 12.70 round	120	5.00/2267	10
80729	6 / 152	Universal	150	5.38/2437	10
80738	6 1/2 / 165	Universal	150	6.38/2890	10
80748	7 / 178	Universal	150	7.69/3483	10
80758	7 1/4 / 184	Universal	150	8.13/3682	10
80768	8 / 203	Universal	150	10.94/4955	10
80775	9 / 228	3/8 / 15.87 x 1/2 / 12.70 round	168	6.13/2776	5
80778	10 / 254	3/4 / 19.05 x 3/8 / 15.87 round	190	8.94/4049	5



## Hollow ground planer combination



Premium blade offers fast, smooth crosscutting, ripping and mitering. Fast cutting teeth, hollow ground for clearance. Excellent blade for all furniture and cabinet work where exceptionally smooth cutting is required. Can be resharpened.

Cat. No.	N/S dia. /No.	Blade "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80786	6 1/2/165	5/8	15.87 x 1/2/12.70 round	10 st.	4.88/2210	10
80796	7/178	5/8	15.87 x 1/2/12.70 round	12 st.	6.06/2745	10
80802	7-7 1/4/178-184	Diamond		12 st.	6.56/2971	10
80806	7 1/4/184	5/8	15.87 x 1/2/12.70 round	12 st.	6.56/2971	10
80816	8/203	5/8	15.87 x 1/2/12.70 round	14 st.	8.00/3628	10
80823	9/228	5/8	15.87 x 1/2/12.70 round	16 st.	5.19/2351	5
80826	10/254	3/4	19.05 x 5/8/15.87 round	16 st.	7.50/3397	5

st. = sections

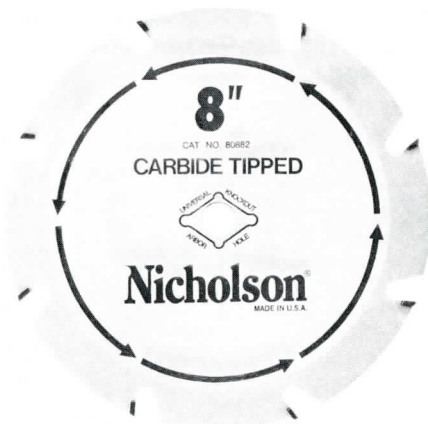
## Hollow ground plywood



A premium blade hollow ground for clearance designed for virtually splinter free cutting of plywood, paneling, and laminated woods. Easily resharpened.

Cat. No.	N/S dia. /No.	Blade "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80833	6 1/2/165	5/8	15.87 x 1/2/12.70 round	150	4.88/2210	10
80841	7/178	5/8	15.87 x 1/2/12.70 round	150	6.06/2745	10
80843	7-7 1/4/178-184	Diamond		150	6.56/2971	10
80848	7 1/4/184	5/8	15.87 x 1/2/12.70 round	150	6.56/2971	10
80856	8/203	5/8	15.87 x 1/2/12.70 round	150	8.00/3628	10
80860	9/228	5/8	15.87 x 1/2/12.70 round	168	5.19/2351	5
80864	10/254	3/4	19.05 x 5/8/15.87 round	190	7.50/3397	5

## Carbide tipped



Long lasting premium blade for fast rugged general purpose cutting of woods, wallboard, and heavy construction gauge plywood. Longer lasting than conventional blades.

Cat. No.	N/S dia. /No.	Blade "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80870	6 1/2/165	Universal		8	4.94/2237	5
80876	7-7 1/4/178-184	Universal		8	5.86/2663	5
80882	8/203	Universal		8	6.75/3057	5

## Carbide tipped multi-tooth



Stays sharper, cuts faster, lasts longer than conventional blades. Cuts almost any material smoothly – without binding.

Cat. /N/S No. /No.	Blade dia. "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80894	6½/165	Universal	20	3.25/1472	5
80901	7/178	Universal	24	3.75/1698	5
80904	7-7½/184	Universal	24	4.00/1814	3
80908	8/203	Universal	30	5.00/2265	3
80912	9/228	5/15.87 x ½/12.70 round	30	6.75/3057	2
80914	10/254	5/15.87 x ½/12.70 round	36	8.00/3624	2

## Carbide tipped blade – 40 tooth



Finer cuts at a faster production. More cuts in less time without sacrificing a smooth cut finish. Packaged in reusable blade saver pack for safe storage.

Cat. /N/S No. /No.	Blade dia. "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80812	6½/165	Universal	40	2.88/1304	3
80813	7-7½/178-184	Universal	40	3.10/1389	3
80822	8/203	Universal	40	4.43/2013	3
80830	9/228	Universal	40	5.12/2325	2
80831	10/254	Universal	40	6.75/3062	2

## Carbide tipped blade – 60 tooth



Faster cuts at a faster production. More cuts in less time without sacrificing a smooth cut finish. Packaged in reusable blade saver pack for safe storage.

Cat. /N/S No. /No.	Blade dia. "/mm	Arbor hole "/mm x "/mm	Teeth	Pack wt. lb/g	Shelf Pack
80836	8/208	Universal	60	4.44/2012	3
80837	9/228	Universal	60	5.12/2325	2
80838	10/254	Universal	60	6.75/3062	2

## Circular saw blades bulk packaged

Description	Cat. /N/S No. /No.	Blade diameter "/mm	Arbor hole	Teeth	Shelf Pack
All purpose combination	80545	6½/165	Universal	44	50
Plywood	80736	6½/165	Universal	150	50
All purpose combination	80553	7½/184	Universal	44	50
Plywood	80755	7½/184	Universal	150	50



## Circular saw blades with millimeter arbor holes – for export only

These blades are manufactured to U.S.A. standards, except that the arbor (center) hole on all blades has a 25mm center hole punched with bushings provided to reduce hole sizes to 20mm and 15mm. These blades are skin packed on our standard cards with labels indicating the center hole sizes.

### Cut off (flat ground)

Ideal for flat smooth cutting across the grains of hard or soft wood, sheeting, flooring and wood molding. Easily resharpened.

Cat. /N/S No. /No.	Blade diameter "/mm	Arbor hole mm x mm x mm	Teeth	Pack wt. lb/g	Shelf Pack
80406	6/152	25 x 20 x 15	100	5.38/2437	10
80425	7/178	25 x 20 x 15	100	7.69/3483	10
80446	8/203	25 x 20 x 15	100	10.94/4955	10
80453	9/228	25 x 20 x 15	100	6.13/2775	5
80456	10/254	25 x 20 x 15	100	8.94/4049	5

### Rip (flat ground)

For cutting hard and soft woods with the grain. Teeth set for clearance. Easily resharpened.

Cat. /N/S No. /No.	Blade diameter "/mm	Arbor hole mm x mm x mm	Teeth	Pack wt. lb/g	Shelf Pack
80470	6/152	25 x 20 x 15	36	5.38/2437	10
80488	7/178	25 x 20 x 15	36	7.69/3483	10
80506	8/203	25 x 20 x 15	36	10.94/4955	10
80512	9/228	25 x 20 x 15	36	6.13/2776	5
80515	10/254	25 x 20 x 15	36	8.94/4049	5

### All purpose combination (flat ground)

A blade for all general purpose work. Smooth cutting in any direction through all types of wood. Easily resharpened.

Cat. /N/S No. /No.	Blade diameter "/mm	Arbor hole mm x mm x mm	Teeth	Pack wt. lb/g	Shelf Pack
80529	6/152	25 x 20 x 15	40	5.38/2437	10
80566	8/203	25 x 20 x 15	44	10.94/4955	10
80575	9/228	25 x 20 x 15	44	6.13/2776	5
80583	10/254	25 x 20 x 15	44	8.94/4049	5

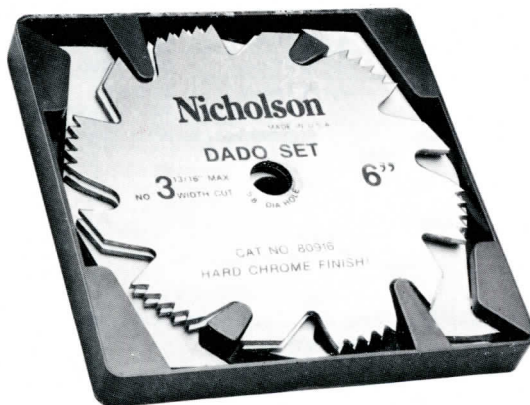
### Planer combination (flat ground)

Economical blade for smooth crosscutting, ripping and mitering. Fast cutting teeth are set for clearance. Can be resharpened.

Cat. /N/S No. /No.	Blade diameter "/mm	Arbor hole mm x mm x mm	Teeth	Pack wt. lb/g	Shelf Pack
80660	6/152	25 x 20 x 15	10 st	5.38/2437	10
80678	7/187	25 x 20 x 15	12 st	7.69/3483	10
80696	8/203	25 x 20 x 15	14 st	10.94/4955	10
80714	10/254	25 x 20 x 15	16 st	8.94/4049	5

st = section

## Dado set



This Dado set offers optional groove requirements up to and including  $\frac{1}{8}$ "/20.63mm to fit virtually all home craftsman and shop requirements. It should not be confused with lower priced "Dados" capable only of three different widths of cut. Nicholson® Dado set cut grooves in one quick, easy operation—in any direction. Seven cutter blades easily interchanged. Width of cut varies from  $\frac{1}{8}$ "/3.17mm to  $\frac{1}{8}$ "/20.63mm. Made of high quality steel, ground and matched to insure smooth, clean grooves. Hard-chromed finish provides excellent rust resistance. For bench, radial arm, and swing saws. Set includes two outside cutters  $\frac{1}{8}$ "/3.17 gauge, one inside cutter  $\frac{1}{8}$ "/1.58mm gauge and four inside cutters  $\frac{1}{8}$ "/3.17mm gauge.

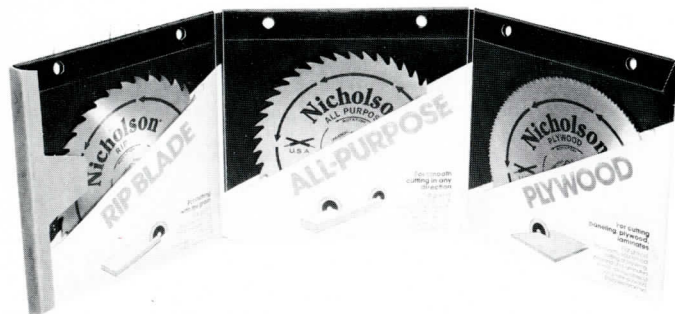
Cat. No.	Blade diameter "/mm	Hole diameter "/mm	Pack wt. lb/g	Shelf Pack
80916	6/152	$\frac{5}{8}$ /15.87	2.62/1191	1
80922	8/203	$\frac{5}{8}$ /15.87	5.37/2438	1

## Circular saw blade bushings

Cat. /N/S No. /No.	Ref. No.	Description "/mm x "/mm	Shelf Pack
80928	1	$\frac{5}{8}$ /15.87 x $\frac{1}{2}$ /12.70	10
80934	3	$\frac{3}{4}$ /19.05 x $\frac{5}{8}$ /15.87	10
80940	6	1/25.40 x $\frac{3}{4}$ /19.05	10
80946	11	Diamond x $\frac{1}{2}$ /12.70 round hole	10
80949	12	Diamond x $\frac{5}{8}$ /15.87 round hole	10

## Circular saw blade kits

### Trio kit



An attractive combination package aimed directly at the home handyman. One convenient purchase provides him with three blades that will be all he needs to tackle the most involved home improvement projects.

The handy fold-up package stores the extra blades and features a quick reference chart indicating which blade is best for a particular task.

Cat. /N/S No. /No.	Blade Size "/mm	Contents	Pack wt. lb/kg	Shelf Pack
80920	6 1/2 / 165	Rip, All-purpose & Plywood	8 1/2 / 3.8	5
80921	7 1/4 / 184	Rip, All-purpose & Plywood	11 1/4 / 5.1	5

### Duo-Pack



The self-storing Nicholson® Duo-Pack holds a plywood blade used for making fast, splinter-free cuts through paneling, plywood and laminates and a planer combination blade to make quick work of cross cutting, ripping and mitering. Blades are protected in the sturdy, easy to store package which also provides a blade selection reference chart.

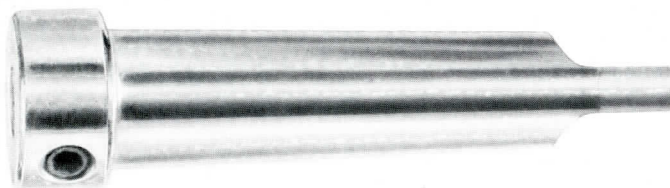
Cat. /N/S No. /No.	Blade Size "/mm	Contents	Pack wt. lb/g	Shelf Pack
80924	6 1/2 / 165	Plywood & Planer combination	7 1/2 / 3.25	5
80925	7 1/4 / 184	Plywood & Planer combination	9 1/4 / 4.14	5

## Mandrels with high speed 1/4" / 6.35mm pilot drills



Cat. /N/S No. /No.	Ref. No.	Shank "/mm	Fitting saws nos.	Follows through
81317	M401H	1/4 / 6.35 round	H109-H119	H112-H119
81323	M402H	7/8 / 11.11 hex	H109-H119	H12-H119
81335	M404HF	7/8 / 11.11 hex	H120-H196	H124-H196
81344	M405HF	5/8 / 15.87 hex	H120-H196	H124-H196
81416	E451	7/8 / 11.11 hex	Extension 12" / 304mm	
81428	P441	1/4" / 6.35mm hex pilot drill for mandrels		

## Morse taper mandrel adaptors



Fit the regular hex shank mandrels listed above, so they can be driven in Morse Taper Socket.

Cat. /N/S No. /No.	Ref. No.	Shank (inch)	Fits Mandrel shanks "/mm
81419	A431	2T	7/8 / 11.11 hex
81422	A432	3T	7/8 / 11.11 hex
81425	A433	3T	5/8 / 15.87 hex

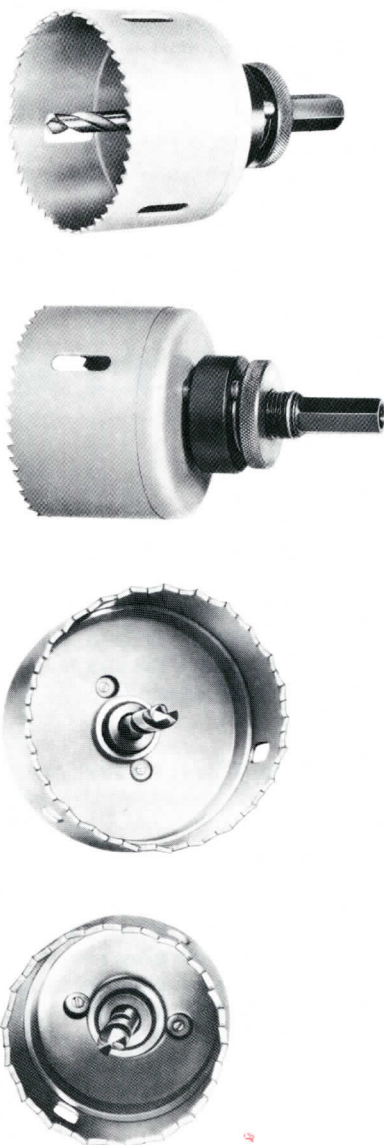


# Hole saws

## Nicholson® High Speed Steel Welded Edge Shatterproof

Nicholson engineers have designed and produced a first quality line of hole saws for fast, clean cuts in tough and mild steels, cast iron, aluminum, brass and bronze, plastics, iron or steel pipe and wood. These hole saws are rugged, high speed gang-cutting tools, capable of cutting holes from  $\frac{3}{8}$ " / 14mm to 6" / 152mm in diameter and up to 1  $\frac{1}{8}$ " / 28mm deep. The saw follows completely through its own hole.

There are six teeth per inch to the cutting edge, which is made of a specially selected high speed steel, welded to an extremely tough alloy steel back. This, in turn, is welded to the steel body.



6 teeth per inch

Cutting depth 1  $\frac{1}{8}$ " / 28mm

Cat. /N/S No. /No.	Ref. No.	Diameter saw "/mm	Pipe sizes		Speed (RPM)	
			Tap "/mm	Entrance "/mm	Mild Steel	Cast Iron
81152	H109	$\frac{3}{8}$ / 14.28	—	—	530	400
81155	H110	$\frac{7}{8}$ / 15.87	—	—	550	365
81158	H111	$1\frac{1}{8}$ / 17.46	—	—	500	330
81161	H112	$1\frac{3}{8}$ / 19.05	—	$\frac{3}{8}$ / 9.52	460	300
81164	H113	$1\frac{7}{8}$ / 20.63	—	—	425	280
81167	H114	$\frac{3}{4}$ / 22.22	$\frac{3}{8}$ / 19.05	$\frac{1}{2}$ / 12.70	390	260
81170	H115	$1\frac{1}{2}$ / 23.81	—	—	370	245
81173	H116	1 / 25.40	—	—	350	235
81176	H117	$1\frac{1}{4}$ / 26.98	—	—	325	215
81179	H118	1 $\frac{1}{8}$ / 28.57	1 / 25.40	$\frac{3}{8}$ / 19.05	300	200
81182	H119	$1\frac{3}{8}$ / 30.16	—	—	285	190
81188	H120	1 $\frac{1}{2}$ / 31.75	—	—	275	180
81191	H121	$1\frac{5}{8}$ / 33.33	—	—	260	175
81197	H122	1 $\frac{3}{4}$ / 34.92	—	1 / 25.40	250	165
81200	H123	$1\frac{7}{8}$ / 36.51	—	—	240	160
81206	H124	1 $\frac{1}{2}$ / 38.10	1 $\frac{1}{4}$ / 31.75	—	230	150
81209	H125	$1\frac{9}{8}$ / 39.68	—	—	220	145
81212	H126	1 $\frac{3}{4}$ / 41.27	—	—	210	140
81215	H127	$1\frac{7}{8}$ / 42.86	—	—	205	135
81218	H128	1 $\frac{3}{4}$ / 44.45	1 $\frac{1}{2}$ / 38.10	1 $\frac{1}{4}$ / 31.75	195	130
81224	H130	1 $\frac{7}{8}$ / 47.62	—	—	180	120
81227	H132	2 / 50.80	—	1 $\frac{1}{2}$ / 38.10	170	115
81230	H133	2 $\frac{1}{8}$ / 52.38	—	—	165	110
81233	H134	2 $\frac{1}{4}$ / 53.97	—	—	160	105
81236	H136	2 $\frac{1}{2}$ / 57.15	2 / 50.80	—	150	100
81239	H137	2 $\frac{3}{8}$ / 58.73	—	—	145	100
81242	H138	2 $\frac{1}{2}$ / 60.32	—	—	140	95
81245	H140	2 $\frac{1}{2}$ / 63.50	—	2 / 50.80	135	90
81248	H141	2 $\frac{3}{8}$ / 65.08	—	—	130	85
81251	H142	2 $\frac{1}{2}$ / 66.67	—	—	130	85
81254	H144	2 $\frac{3}{4}$ / 69.85	—	—	125	80
81257	H146	2 $\frac{3}{4}$ / 73.02	—	—	120	80
81260	H148	3 / 76.20	—	2 $\frac{1}{2}$ / 63.50	115	75
81263	H150	3 $\frac{1}{8}$ / 79.37	—	—	110	70
81266	H152	3 $\frac{1}{4}$ / 82.55	3 / 76.20	—	105	70
81269	H154	3 $\frac{3}{8}$ / 85.72	—	—	100	65
81272	H156	3 $\frac{1}{2}$ / 88.90	—	—	95	65
81275	H158	3 $\frac{3}{8}$ / 92.07	—	3 / 76.20	95	60
81278	H160	3 $\frac{3}{8}$ / 95.25	3 $\frac{1}{2}$ / 88.90	—	90	60
81281	H162	3 $\frac{1}{2}$ / 98.42	—	—	90	60
81284	H164	4 / 101.60	—	—	85	55
81287	H166	4 $\frac{1}{8}$ / 104.77	—	3 $\frac{1}{2}$ / 88.90	80	55
81290	H168	4 $\frac{1}{4}$ / 108	—	—	80	55
81296	H172	4 $\frac{1}{2}$ / 114.30	—	4 / 101.60	75	50
81299	H176	4 $\frac{3}{4}$ / 120.65	—	—	75	50
81302	H180	5 / 127	—	—	65	45
81308	H188	5 $\frac{1}{2}$ / 139.70	—	—	60	40
81314	H196	6 / 152.40	—	—	55	35

# Nicholson® Bandsaws and Power Hacksaws

## Band saw blade section

### Obtaining maximum blade performance and durability

Performance of all cutting tools can be measured by the tool's ability to cope with (1) heat, (2) shock, (3) abrasion, (4) flexing. Red heat hardness is the cutting tool's capacity to tolerate the heat generated in the cutting operation without destroying the tool's cutting ability. High red heat hardness allows faster tool speeds, heavier feeds and faster cutting rates.

Resistance to shock is the ability to withstand impact blows caused by the vibrations inherent in cutting.

Abrasion resistance is an inherent characteristic of the material used to make the cutting tool and the heat treatment to which this material may be subjected. Wearability of a cutting tool is determined by its abrasion resistance and its hardness after heat treatment.

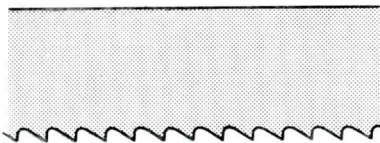
Flex life is the ability of the band saw blade to withstand repeated flexing around the wheels of the band sawing machine without breaking.

### Durability chart

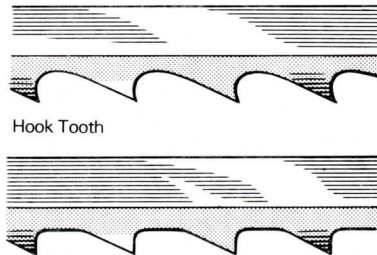
The following chart rates various band saw blades by their red heat hardness, resistance to shock, abrasion resistance and flex life. Red heat hardness is shown in degrees of temperature. Other characteristics are rated 1 through 5, with 1 indicating the highest quality and 5 meaning the lowest on the scale. The 1 through 5 ratings have no exact quantitative value and are used solely for the sake of comparison.

Blade type	Red Heat Hardness	Resistance to Shock	Resistance to Abrasion	Flex Life
Bi-Metalloy I	593°C	2	2	2
Bi-Metalloy III	538°C	3	1	2
Friction bands	204°C	1	5	1
Hard back bands	204°C	2	4	2
Flex back bands	204°C	2	4	3

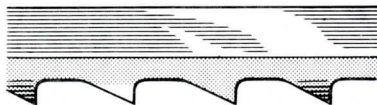
## Band saw blade tooth selection



Regular tooth



Hook Tooth



Skip Tooth



Raker set



Wavy set

### A blade for every material and every purpose

Nicholson band saw blades are used on all cut-off and contour band saws. Nicholson blades are milled and set on automatic machines for uniform accuracy. Then they are heat treated under strictest control to the exacting requirements of the Nicholson "gradient hardness process." The razor-sharp tooth tip has a hardness ranging from Rockwell C63-65, with hardness gradually declining toward the tooth base (gullet) to Rockwell C48-50. This gives the tooth sufficient flexibility to prevent breakage and stripping, making the blades ideal for accurate high-production band sawing.

Nicholson saw blades are available with three different standard tooth designs, and three different standard tooth sets.

### Tooth design

Regular tooth design has a 0° rake angle and a deep gullet with a smooth radius. This tooth is the most widely used and has the greatest selection of pitches.

Hook tooth design incorporates a 10° positive rake angle to permit greater chip removal without increasing frictional heat. Hardened teeth retain sharpness longer and provide more bite for fast cutting with light feed pressures. Recommended for use on wood, plastics, paper and non-ferrous metals and large cross sections of ferrous metals.

Skip tooth design has a 0° rake angle and provides greater chip clearance for fast, easy cutting of a wide range of materials. The strong, hardened teeth retain a sharp cutting edge and withstand heavy feeding pressures. An all-round choice for cutting wood, plastics and non-ferrous metals.

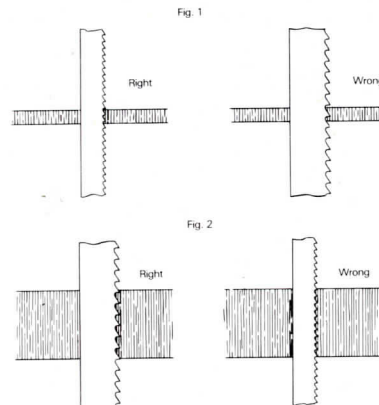
### Tooth set

Raker set may be used for all jobs on horizontal and vertical band saws. Available in all three tooth designs.

Wavy set is used for thick sections of varying sizes. It allows the use of a larger pitch by minimizing the danger of tooth stripping. Available only in regular tooth design.

### Choosing tooth coarseness

Ideally, at least 3 teeth should be in the work at all times. On very thin materials, at least 2 teeth should be in the material. Figures 1 and 2 illustrate the importance of choosing the appropriate degree of tooth coarseness. The chart on pages 72 and 73 gives exact recommendations for various thicknesses and materials. Fine tooth blades are used for cutting through sections such as sheet metal and light tubing. On harder materials, even finer teeth should be used. A proportionately finer tooth gives a finer finish. Coarse-tooth blades are used for cutting heavier sections, for softer and stringy materials and on thin stock at extremely high speeds.





# Tooth and speed selection

For hard edge flexible back and hard back blades

W = Wavy H = Hook Tooth R = Raker S = Skip Tooth

**Note:** In special cases it is recommended to use Velcut set for cutting paper, wood, aluminum, mild steels, and plastics. Recommendations will be supplied on request.

## Metals

Materials	$\frac{3}{8}$ " / 2.38mm			$\frac{1}{2}$ " / 6.35mm			$\frac{1}{2}$ " / 12.70mm			$1\frac{1}{4}$ " / 31.75mm			$2\frac{1}{4}$ " / 69.85mm			$6$ " / 152mm		
	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed
Carbon Steel	24	W	295	18	R	165	14	R	165	8	R	130	6	H	100	3	H	100
Nickel Steel	18	R	205	14	R	150	10	R	130	8	R	100	6	R	65	3	H	65
Chrome Steel	24	R	110	14	R	100	10	R	100	8	R	80	6	R	50	6	H	50
Chrome Nickel Steel	18	R	130	14	R	115	10	R	100	8	R	80	8	R	50	6	H	50
Stainless Steel	24	W	100	18	R	100	14	R	75	10	R	60	8	R	50	6	H	50
Chrome-Vanadium Steel	18	R	150	14	R	100	10	R	65	10	R	50	8	R	50	6	H	50
High Speed Steel	24	W	130	18	R	100	14	R	100	10	R	65	8	R	50	6	H	50
Hardening Steel	18	R	130	14	R	100	10	R	100	8	R	65	6	R	50	6	H	50
Manganese Alloy Steel	18	R	205	14	R	165	10	R	150	8	R	130	6	R	100	6	H	65
Molybdenum Alloy Steel	18	R	130	14	R	100	10	R	80	8	R	65	6	R	50	6	H	50
Tungsten Alloy Steel	18	R	150	14	R	115	10	R	100	10	R	80	8	R	50	6	H	50
Armor Plate	18	R	165	14	R	115	14	R	100	10	R	65	8	R	50	6	R	50
Gray Pig Iron	18	R	180	14	R	165	10	R	130	8	R	100	6	R	80	6	R	80
Malleable Cast Iron	18	R	205	14	R	180	10	R	165	10	R	150	8	R	130	6	R	100
High-test Cast Iron	18	R	230	14	R	200	10	R	200	10	R	165	8	R	115	6	R	80
Copper	10	R	2600	6	R	2600	4	S	2300	3	S	1950	3	S	1600	3	S	1300
Electrolytic Copper	14	R	1300	14	R	820	10	R	650	8	R	490	6	R	200	3	S	200
Beryllium Alloy Copper	18	R	395	14	R	295	10	R	260	8	R	230	6	R	165	6	H	100
Mild Brass	10	R	2600	6	R	2600	4	S	2300	3	S	1950	3	S	1600	3	S	1300
Hard Brass	18	R	295	14	R	260	10	R	245	10	R	230	6	R	200	6	H	130
Mild Bronze	18	R	985	14	R	490	10	R	330	8	R	295	6	R	200	3	S	165
Manganese Bronze	18	R	295	14	R	245	10	R	230	8	R	215	6	R	200	3	H	165
Aluminum Bronze	18	R	205	14	R	130	10	R	115	8	R	100	6	R	50	3	H	50
Phosphor Bronze	18	R	490	14	R	425	10	R	395	6	R	295	4	S	260	3	S	200
Aluminum	4	S	3900	3	S	3900	3	S	3900	3	H	3900	3	H	3280	2	H	2600
Duraluminum & Aluminum	4	S	3900	3	S	3900	3	S	3280	3	H	2600	3	H	2300	2	H	1600
Alpax	4	S	3600	3	S	3280	3	H	2600	3	H	2300	3	H	1600	2	H	1300
Nickel	14	R	165	10	R	100	8	R	100	6	R	80	6	R	50	3	H	50
Silver	24	W	245	18	R	245	14	R	230	14	R	200	8	R	150	6	R	115
Lead	8	R	3900	3	S	3600	3	S	3280	3	S	3000	3	S	1950	2	S	1000
Zinc	8	R	3900	4	S	3750	4	S	3600	3	S	3280	2	S	2600	2	S	2300
Magnesium	10	R	3900	4	S	3750	3	S	3600	3	H	3280	3	H	2600	3	H	2300

## Plastics

Materials	$\frac{3}{8}$ " / 2.38mm			$\frac{1}{2}$ " / 6.35mm			$\frac{1}{2}$ " / 12.70mm			$1\frac{1}{4}$ " / 31.75mm			$2\frac{1}{4}$ " / 69.85mm			$6$ " / 152mm		
	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed
Bakelite	10	R	1600	8	R	1600	8	R	1600	6	R	1600	4	S	1600	3	S	1000
Plexiglas	24	W	3900	10	R	3600	6	R	3280	3	S	3000	3	S	2600	2	S	2300
Cellulose Acetate	18	R	4900	10	R	4900	6	R	4600	4	S	3950	3	S	3750	2	S	3280
Vinyl Resine	14	R	4900	10	R	4900	6	R	4600	4	S	4280	3	S	3950	2	S	3280
Polystyrene	18	R	5250	10	R	5250	6	R	5250	4	S	4900	4	S	4600	3	S	4280
Molded Phenoplast (Synthetic Phenolic Resin) Bakelite	18	R	5250	10	R	5250	6	R	4900	4	S	4280	4	S	3900	2	S	3280
Paper Laminates (Formica) & Textile Laminates (Celoron)	14	R	5250	8	R	5250	6	R	4900	4	S	4260	4	S	3900	2	S	3280
Asbestos Wood Laminates	14	R	4590	10	R	4600	6	R	4260	4	S	4260	4	S	3000	3	S	2300
Ground Wood Laminates	14	R	4900	8	R	4900	6	R	4900	4	S	3900	3	S	3000	2	S	2600

## Miscellaneous

Materials	$\frac{3}{8}$ " / 2.38mm			$\frac{1}{2}$ " / 6.35mm			$\frac{3}{4}$ " / 12.70mm			$1\frac{1}{4}$ " / 31.75mm			$2\frac{1}{4}$ " / 69.85mm			$6$ " / 152mm		
	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed	Teeth	Set	Speed
Asbestos	18	R	2130	14	R	1950	4	S	1600	4	S	1600	3	S	1600	3	S	1150
Brake Linings (according to abrasiveness)	10	R	2295	6	R	1800	6	R	1000	4	S	490	3	S	260	3	S	100
Carbon	8	R	4260	6	R	3900	4	S	3900	3	S	3900	2	H	2600	2	H	2300
Compressed Paper	18	R	4900	14	R	4900	10	R	4600	8	R	3900	3	H	3280	3	H	2600
Compressed Wood	8	R	4900	8	R	4600	6	R	3950	4	S	3900	3	H	3750	2	H	3600
Hard Wood	6	R	4900	6	R	4900	6	R	4280	4	S	3950	3	S	3900	3	S	3900
Rubber—Neoprene	14	R	4900	10	R	4900	8	R	4900	6	R	4600	3	H	3900	3	H	3280
Mica	32	W	1150	32	W	800	24	R	490	14	R	200	10	R	165	8	R	130
Shatterproof Glass	18	R	990	10	R	330	8	R	230	6	R	130	4	S	80	4	S	33

\* Feet per minute

## Suggested cutting techniques

### Determining proper blade width

For straight cutting, use the widest width that the machine will allow. In contour radius cutting, the radius of the cut and material thickness are guiding factors in selecting blade width. Use the widest width that will cut the radius to be sawed.

### Blade speeds

Higher speeds should be used on soft materials, slower speeds on harder materials. Check Nicholson tooth selection chart on pages 72 and 73.

### High speed cutting

Speed range 1000 to 5000 S.F.P.M. used on non-ferrous metals, plastic, wood and rubber. Nicholson® skip tooth or hook tooth band saw blades are recommended.

### Blade tension

Blade tension depends on blade width, thickness and type of blade. Blades with hardened backs such as hard back, intermediate alloy and Bi-Metalloy® I and III can be used at twice the tension of hard edge flexible back blades. In general blades should be tensioned so they are taut and track properly. On machines with tension indicators, follow the settings for the width and type of blade.

### Feed pressure

Ideal feeding pressure varies according to size and machinability of the material being cut. Slow speed with steady, moderate feed pressure gives maximum blade life. Excessive pressure often dulls the blade, and too light a feed causes the blade to slip over the work, resulting in premature blade wear. Use light feed on thin sections and when using blades  $\frac{1}{4}$ " / 6mm and under for radius cutting. Hard materials require heavier feed. It is good sawing practice to avoid starting the cut on a sharp corner. When unavoidable, begin the cut with light pressure.

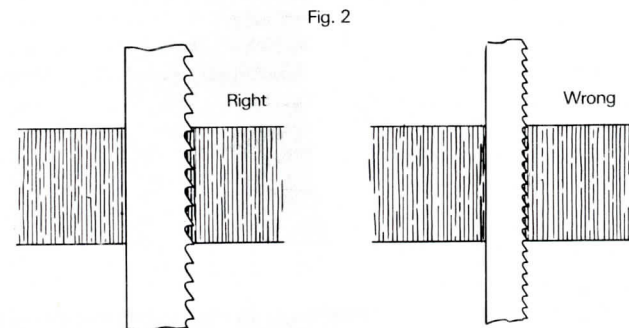
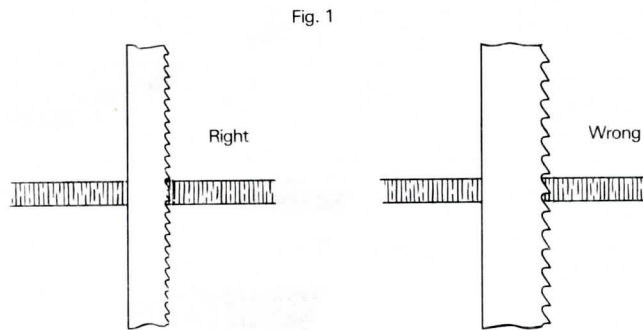
### Friction sawing

Detailed information is provided in the special purpose friction cutting section on page 80.

### Welding and Grinding

1. Square ends of the blade before placing in welder.
2. Align blade correctly in welder jaws.
3. Welder tension adjusting should conform to width of blade.
4. After completing weld, reset jaws for annealing.
5. Anneal to proper heat. Cool slowly by jogging anneal switch.
6. Grind carefully—retain band thickness but make sure weld can pass freely through saw guides.
7. Always keep welder jaws clean.

### Select the tooth carefully



Saw size	Radius	Materials Thickness $1\frac{1}{2}$ " / 25mm
$1\frac{1}{2}$ " / 25mm	$7\frac{1}{4}$ " / 184mm	
$\frac{3}{4}$ " / 19mm	$5\frac{7}{8}$ " / 138mm	
$\frac{5}{8}$ " / 16mm	$3\frac{3}{4}$ " / 95mm	
$\frac{1}{2}$ " / 13mm	$2\frac{1}{2}$ " / 63mm	
$\frac{3}{8}$ " / 10mm	$1\frac{1}{4}$ " / 32mm	
$\frac{1}{4}$ " / 6mm	$\frac{5}{8}$ " / 16mm	
$\frac{3}{16}$ " / 5mm	$\frac{3}{8}$ " / 10mm	
$\frac{1}{8}$ " / 3mm	$\frac{3}{16}$ " / 5.5mm	
$\frac{3}{32}$ " / 2.4mm	$\frac{1}{8}$ " / 3mm	
$1\frac{1}{16}$ " / 27mm	$90^\circ$	



# Standard sizes for popular machines

Name of Machine		Length Ft. Ins.	Name of Machine		Length Ft. Ins.	Name of Machine		Length Ft. Ins.
Armstrong-Blum No. 8	14	8	DoAll 3GR, 36W, HP-36, C036	20	0	Kalamazoo 30R, 30T	12	3
Armstrong-Blum No. 81 & 81A	14	6	DoAll V-60, ZV-60			Kalamazoo H10A	12	6
Armstrong-Blum High Column			(3 wheels; 3624-X1)	21	2	Kalamazoo 216, 316		
No. 8	15	8	DoAll Z36, 60-2, 6013-2, CZ-1620	21	3	(over 2 wheels)	11	5
Atkins No. 3	15	8	DoAll 60-3, 60-4, Z-60,			Kalamazoo No. 1220C, 12B, 13AD,		
Atkins No. 4	14	1	6013-3, HS-6013	22	9	13AW, 1220	13	11
Avery Milband	14	9	DoAll Z36, 60-2, 6013-2,			Kalamazoo H12B	14	0
Black & Decker 3120-21, 22-33	3	8½	CZ-1620	21	3	Kalamazoo 316 (over 3 wheels)	15	1½
(Portable)	x	.020	DoAll 60-3, 60-4, Z-60,			Kalamazoo 14A	15	6
Boice Crane No. 800	7	6	6013-3, HS-6013	22	9	Klemm No. 1	11	2
Boice Crane No. 2300	8	2	DoAll C-2424, 1824	24	3	Klemm No. 2	15	8
Boice Crane 12"	6	5½	DoAll AC-2016	26	0	Ladlaw CM, CMT	15	8
Clark Junior & Special	10	10	DoAll Pan Arm	28	6	Laidlaw JM30, SM30	16	0
Clark Compound	15	6	Duro A-3027	5	8	Laidlaw Jr. & Special	10	10
Crescent B20M	11	3	Duro 12½"	6	6	Laidlaw JM20, SM20, SMT20	11	0
Crescent Machine Co. 26"	13	9	Duro 12"	6	8	Laidlaw SMT-30	16	0
Crescent Machine Co. 32"	16	4	Duro 15"	8	8	Laidlaw JM-30F, Dry	17	6
Crescent Machine Co. 36"	18	6	Duro 16"	9	3	Marco	11	6
Davis and Wells Comet	11	8	Emerson-Lynn 4500	5	4½	Marvel 612	8	10
Delta No. 785 10"	6	2	Emerson-Lynn 7126	8	11	Marvel No. 8	14	8
Delta 12" Wheel	6	6	Famco No. 612	8	9	Marvel No. 8 (high column)	15	8
Delta 14" Wheel	7	9	Famco No. 612	8	10	Marvel No. 81, 81A	14	6
Delta 14" Wheel	7	9½	J. A. Fay & Eagon Co. 30"	17	3	Marvel No. 15, 15A	15	6
Delta 14" Wheel (with			J. A. Fay & Eagon Co. 36"	20	6	Meba	12	5½
extension)	8	9	Fort 250	12	0	Milband-Thompson	12	11
Delta No. 20	11	9	Gibbes-Kennedy	11	6	Milband-Thompson	15	0
Delta Homecraft	5	11½	Granville 9H	11	11	Milclark	10	10
DoAll J.	7	0	Granville 10H	13	3	Milwaukee	3	8½
DoAll JD	8	7	Greenlee 521	4	6	Moak 20"	11	1
DoAll M	9	0	Greenlee 346	6	9	Moak 26"	14	1
DoAll HS, HSV, LHV, SFP, V-16,			Greenlee 348	8	10	Moak 32"	16	10
ML, Z-16, U-16, P-16, 16-3,			Grob Co. 18 Cut-off Saw	13	6	Moak 36"	19	6
LSV, 16-2	10	0	Grob HS-24 Hi-Speed	14	4	Monarch 72B, 20"	11	6
DoAll HSV, SFP, HS, LHV, U-16,			Grob NS-18	12	0	Monarch 61	14	0
1612-U, 1612-O	10	2	Grob NS-24	14	4	Monarch X25, 30"	16	8
DoAll 1612-1, 1613-2, 1612-3,			Grob NS-36	15	10	Monarch 38"	18	6
1612-X1	10	5	Grob S-14	7	9	Monarch X40, 36"	21	11
DoAll C-4	10	11	Grob S-14	9	9	Mossner SSF-350	9	8
DoAll C-12	11	0	Grob 2-24-U	15	5	Mossner	12	2
DoAll MD	11	6	Grob NS60	20	2	Napier B	12	3
DoAll C-41A, C-55, C-56, C-57,			Grob OSN14, OSN20			Napier Jr	8	4
C-58, C-67, C-68, C-69,			(open end)	140	0	Oliver Mach. Co. No. 2520, 20"	8	8
C-70, C-169, C-170, C-80,			Houghton	12	6	Oliver Mach. Co. No. 192,		
C-180	12	0	Houghton-Richards 9" Cup S-56 H.	13	0	18", 192D, 18"	9	8
DoAll SFP-30, LSV-30, HS-30,			Hedromatic	12	10½	Oliver Mach. Co. No. 217, 30"	15	11
HSV-30	13	3	Ideal 9A	11	1	Oliver Mach. Co. No. 217, 20"	16	0
DoAll C-7, C-8, C-8A, 3012-U	13	4	Johnson 10x18 Model J	11	5	Oliver Mach. Co. No. 116, 36",		
DoAll MP20	13	6	Johnson Jr. Model B	7	5	416D, 36"	19	6
DoAll MP20	13	8	Johnson B, MB1	7	5	Oliver Mach. Co. No. 115D, 38"	20	0
DoAll V-36, SV36-16, SZ36-3,			Johnson R, MR1	7	9	Peerless 2216, 1216, 1214, 1216M,		
CS6-3, CCS, ZV-36, V36-3	13	10	Johnson HS and HSA	11	6	1216MH, 1300, Valumatic		
DoAll C-6	14	0	Johnson HS and HSA	14	6	12x16, 1400 Accumatic		
DoAll 36-2, 36-3, Z-36	14	3	Kalamazoo No. 610C, 610S	7	5	12x16	12	0
DoAll 3613-0, 36-2, 36-3,			Kalamazoo, 7AD, 7AW, M7AD,			Peerless 1300, Valumatic 12x18,		
3612-3, MX20	14	7	M7AW, C7AD	7	5	1400 Accumatic 12x18	12	4
DoAll 3612-3, 3613-2, 3613-1	14	7	Kalamazoo 30R, 30T (over 2			Peerless 2400MS, 4800MS	14	0
DoAll V-26, 26-2, 2613-2, 2612-1			wheels)	9	3	Peerless 2600	15	6
V-60 (2 wheels)	14	9	Kalamazoo 18V, 18T	9	6	Powermatic 2	13	1
DoAll 26-3, 2613-3, 6013-3	15	6	Kalamazoo Standard No. 816C,			Powermatic 5, 6, and 8	15	2
DoAll 2618-4	17	1	816S, 816	10	5	Powermatic 141 and 143	7	11
DoAll TF-24, TF-36	17	2	Kalamazoo 24V, 24T	10	6	Powermatic 87, 81 and 89	12	6
DoAll 2626-5, 2624-5	17	11	Kalamazoo 20R, 20T	10	10	Powermatic 87, 81, and 89	12	7
DoAll 2624-5	18	0	Kalamazoo No. 8C, 8CD, 8CV, 9AD,			Presto	10	9
DoAll 26-5	18	3	9AW, H9AD, H9AW	10	10½	Racine	7	8
DoAll P16A, P-16M	19	0	Kalamazoo Large No. 824, 824A,			Rapid MBS-200	8	10
DoAll ZS-2620, ZV-3620, ZW-3620	19	0	8AD, 8AW	12	1	Ridgid 941, 942, 943	3	8½

Name of Machine	Length		Name of Machine	Length		Name of Machine	Length	
	Ft.	Ins.		Ft.	Ins.		Ft.	Ins.
Rockwell Porta Bond	3	8½	Tannewitz DiSaw 36MS, 36MH	17	2	Wellsaw Mod. 300	5	0
Rockwell Mod. 6W (20-910)	8	11	Tannewitz DiSaw 48M,			Wellsaw Mod. 58B	7	9
Rockwell LVC	10	10	48MS, 48MH	18	2	Wellsaw Mod. 600	8	2½
Rockwell Mod. 7 (20-920),			Tannewitz DiSaw 60M	19	10	Wellsaw Mod. 1270, 1200	13	6
Mod. 7A (20-950)	11	0	Tannewitz DiSaw 60MS, 60MH	22	8	Wellsaw Mod. 14	15	4
Rockwell Mod. 10 (20-930),			Tannewitz 2400MH	14	6	Wellsaw Mod. 20 Std	16	0
Mod. 10A (20-960), Mod. 12A			Tannewitz 2400MS	14	10	Wellsaw Mod. 1224-H	21	8
(20-970)	12	6	Tannewitz 3000MS, 3000MH	17	10	Wellsaw Mod. 2400A	32	3
Rockwell Delta 20" (28-345),			Tannewitz 3600MS, 3600MH			Wellsaw Mod. 24008	36	3
20" (28-340)	12	6	(2 wheels)	14	10	Wespa	12	0
Roll-In All Purpose	9	0	Tannewitz 3600MH (3 wheel)	17	2	Wespa MS-3	8	½
Roll-In Gravity Feed	9	2	Tannewitz 3600MS (3 wheel)	17	6	Wespa MS-4	9	8
Roll-In Journeyman	12	6	Tannewitz 4800MH (2 wheel)	14	10	Wespa AS-4	10	2
Rusch	12	0	Tannewitz 4800MH (3 wheel)	18	2	Wespa AS-6	14	7
Sawmaster	12	6	Tannewitz 6000MS, 6000MH			Wespa AS-9	13	11
Stockbridge or H & R 6"	12	5½	(2 wheel)	14	10	Wespa ASH-6	14	9
Stockbridge or H & R 9"	13	0	(3 wheel)	22	8	Wespa ASH-9	19	8
Stockbridge or H & R 12"	15	5½	Thiele No. 17	9	3	Wespa US-63	17	2½
Tannewitz 24" E, EV	13	7	Thompson	15	8	W. F. Wells & Sons Model F14,		
Tannewitz 30", P1, P1E, P3,			Thompson Miband	12	11	D14, Q14	14	5
PHE, PV1	17	0	Thompson Milband	15	0	W. F. Wells & Sons Model W9,		
Tannewitz 30", PHN, PHNE,			Walker-Turner 12"	6	6	L9, M9, H9	11	6
PV1N, PV1NE	17	6	Walker-Turner 14"	8	½	W. F. Wells & Sons Model J24	16	9
Tannewitz 36", G, G1E, G3, GH,			Walker-Turner 16" (MBM1105)	9	6¾	W. F. Wells & Sons Model A,		
GHE, GV1, GV1E, G7	19	9	Walker-Turner 16" (MCB11513)	9	3½	A7, A6	17	10
Tannewitz 36", GHN, GHNE,			Walker-Turner MCB1160	9	3	W. F. Wells & Sons Mod. QJ24	21	0
GV1N, GVNE, G1NE	20	4	Walker-Turner MNB1105	9	6	W. F. Wells & Sons Mod. X60	20	10
Tannewitz 42", R1, R1E, RH,			Wells No. 5	8	2½	W. F. Wells & Sons Mod. T40	26	11
RHE, RV1, RV1E, RVTE	22	0	Wells No. 7A, 76, 8, 80	11	6	Whitney-Stueck A24S, A243,		
Tannewitz 42", RHN, RHNE,			Wells No. 58B	7	9	A24V, A24F	13	5
RV1N, RV1NE	22	11	Wells No. 9	9	5	Williamson No. 2, No. 3	20	9
Tannewitz DiSaw 24M	13	7	Wells No. 12	13	7	Williamson No. 3	24	6
Tannewitz DiSaw 24MS,			Wells No. 49, 49A	5	0	Wilton 3002, 3003, 3010	5	4½
24MH, 24M	14	6	Wells No. 800, 1000	11	6	Wright No. P, 1, 2, 3	15	8
Tannewitz DiSaw 20MS,			Wells No. 1200	13	6	Wright No. 4	19	0
30MH, 30M	17	10	Wells No. 20 Std	16	0			
Tannewitz DiSaw 36M	16	10	Wells No. 600	8	2½			

## Bi-Metalloy®

Bi-Metalloy blades consist of a high speed steel edge, electron beam welded to a special alloy steel back. After welding, teeth are milled to a point below the weld line. Bi-Metalloy blades offer perfect sawing accuracy on every known material.

### Cutting edge

Two different cutting edge alloys are available in Bi-Metalloy band saw blades. Each alloy provides particular characteristics needed for certain types of sawing operations and for various materials.

### Backing

The backing material of the Bi-Metalloy band is a special alloy designed to produce maximum tensile strength and resistance to fatigue. This backing allows the use of high blade tensions to provide the ultimate in sawing accuracy.

Bi-Metalloy blades can be welded on standard butt welding equipment, enabling welds to be made as required by the user. However, blades used on high performance sawing machines, such as the Marvel 81-A, Do-All power saws, the Mill Band, Peerless and the Kalamazoo H-12B, should be produced on heavy duty welding equipment. The requirements imposed on the weld by these and other similar machines are beyond the capacity of welds that can be made on standard welders in the field.



## Bi-Metalloy® I

The cutting edge of Bi-Metalloy 1 is M-2 high speed steel that has been heat treated to a hardness of 64-65 Rockwell C and is preferred for all general purpose cutting. Bi-Metalloy 1 will outperform solid high speed steel band saw blades by as much as 2 to 1.



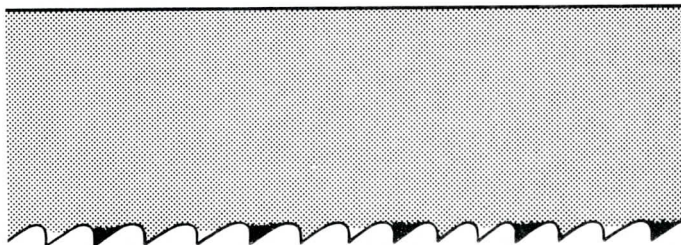
Width "/mm	Gauge Inches	Teeth Per Inch	Cat. & N/S Nos. 150'/46m Coil	Welded* Lengths
3/4/6.35	.035	10 Raker	65001	65009
3/4/6.35	.035	6 Hook	69131	69139
3/4/9.52	.035	8 Raker	65021	65029
3/4/9.52	.035	10 Raker	65031	65039
3/4/9.52	.035	4 Hook	69141	69149
3/4/9.52	.035	6 Hook	69151	69159
3/4/12.70	.025	10 Raker	69171	69179
3/4/12.70	.025	14 Raker	69201	69209
3/4/12.70	.035	6 Raker	69221	69229
3/4/12.70	.035	8 Raker	69231	69239
3/4/12.70	.035	10 Raker	65051	65059
3/4/12.70	.035	14 Raker	69261	69269
3/4/12.70	.035	3 Hook	69271	69279
3/4/12.70	.035	4 Hook	69281	69289
3/4/12.70	.035	6 Hook	65071	65079
3/4/19.05	.035	6 Raker	65081	65089
3/4/19.05	.035	8 Raker	65091	65099
3/4/19.05	.035	10 Raker	65101	65109
3/4/19.05	.035	3 Hook	69651	69659
3/4/19.05	.035	4 Hook	69661	69669
3/4/19.05	.035	6 Hook	69671	69679
1/25.40	.035	4 Raker	65121	65129
1/25.40	.035	6 Raker	65131	65139
1/25.40	.035	8 Raker	65141	65149
1/25.40	.035	10 Raker	65151	65159
1/25.40	.035	3 Hook	65161	65169
1/25.40	.035	4 Hook	65171	65179
1/25.40	.035	6 Hook	69771	69779
1/25.40	.042	4 Raker	69781	69789
1/25.40	.042	6 Raker	69791	69799
1/25.40	.042	3 Hook	69541	69549
1 1/4/31.75	.042	4 Raker	69081	69089
1 1/4/31.75	.042	6 Raker	69091	69099
1 1/4/31.75	.042	8 Raker	69571	69579
1 1/4/31.75	.042	3 Hook	69101	69109

\*Specify length in feet and inches.

## Variable Pitch Bi-Metalloy® I-VP5

Bi-Metalloy blade for high-speed cutting on pipe, tubing, structurals. Reduces vibration and noise.

VP5, the newest Bi-Metalloy blade, uses the Variable Pitch design of gradually increasing and decreasing distance between teeth. The variable pitch blade has five increasingly spaced, alternately set teeth, followed by one raker tooth. Then there are five alternately set teeth with decreasing space between each, again followed by one raker tooth. This pattern assures having two teeth in the work at all times, which takes the guesswork out of blade selection and reduces vibration, noise and tooth strippage.

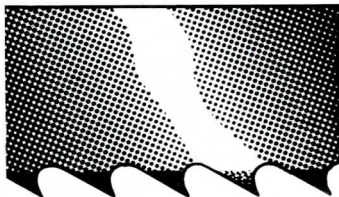


Width "/mm	Gauge Inches	Teeth Per Inch	Cat. & N/S Nos. 150'/46m Coil	Welded* Lengths
3/4/19.05	.032	6 VP 5	70601	70609
3/4/19.05	.032	8 VP 5	70611	70619
3/4/19.05	.032	10 VP 5	70621	70629
3/4/19.05	.032	14 VP 5	70631	70639
3/4/19.05	.035	6 VP 5	69611	69619
3/4/19.05	.035	8 VP 5	69621	69629
3/4/19.05	.035	10 VP 5	69641	69649
1/25.40	.035	8 VP 5	69751	69759
1/25.40	.035	10 VP 5	69761	69769
1/25.40	.035	14 VP 5	69741	69749
1/25.40	.035	4 VP 5	70811	70819
1/25.40	.035	6 VP 5	70821	70829
1/25.40	.042	3 VP 5	70801	70809
1 1/4/31.75	.042	3 VP 5	70851	70859
1 1/4/31.75	.042	4 VP 5	70861	70869
1 1/4/31.75	.042	6 VP 5	70921	70929
1 1/4/31.75	.042	8 VP 5	70431	70439
1 1/4/38.10	.050	2 VP 5	70511	70519
1 1/4/38.10	.050	3 VP 5	70521	70529
1 1/4/38.10	.050	4 VP 5	70531	70539
1 1/4/38.10	.050	6 VP 5	70541	70549
2/50.80	.050	2 VP 5	70641	70649
2/50.80	.050	3 VP 5	70651	70659
2/50.80	.050	4 VP 5	70661	70669
2/50.80	.050	6 VP 5	70671	70679

\*Specify length in feet and inches.

## Bi-Metaloy® III

Bi-Metaloy III has a cutting edge of M-42 high speed steel that has been heat treated to a hardness of 68-69 Rockwell C to provide the maximum abrasion resistance needed for sawing space-age alloys, hardened materials and stainless steels. This high speed steel tooth retains full hardness during the entire life of the blade.

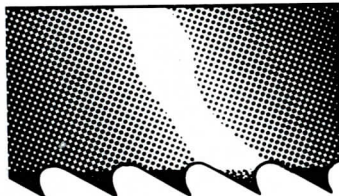


Width "/mm	Gauge Inches	Teeth Per Inch	Cat. & N/S Nos.	
			150'/46m Coil	Welded* Lengths
1/25.40	.035	3 Hook	69801	69809
1/25.40	.035	4 Raker	69811	69819
1/25.40	.035	6 Raker	69821	69829
1/25.40	.035	8 Raker	69831	69839
1/25.40	.035	10 Raker	69841	69849
1/25.40	.042	3 Hook	69851	69859
1/25.40	.042	6 Raker	69861	69869
1/25.40	.042	6 Raker	69871	69879
1 1/4/31.75	.042	3 Hook	69881	69889
1 1/4/31.75	.042	4 Raker	69891	69899
1 1/4/31.75	.042	6 Raker	69901	69909

\*Specify length in feet and inches.

## Variable Pitch 5 hook (VP5) Bi-Metaloy® III

This versatile blade allows faster production sawing of everything from solids to tubing, reducing the necessity for blade changes and lowering the cost-per-cut. The unique tooth spacing and pitch set of the VP5, as well as its unequalled Bi-Metaloy construction, reduce both vibration and noise while increasing shock resistance and minimizing tooth strippage.



Width "/mm	Gauge Inches	Teeth Per Inch	Cat. & N/S Nos.	
			150'/46m Coil	Welded* Lengths
3/4/19.05	.035	4 VP 5	65011	65019
3/4/19.05	.035	6 VP 5	65041	65049
3/4/19.05	.035	8 VP 5	65061	65069
1/25.40	.035	4 VP 5	69721	69729
1/25.40	.035	6 VP 5	69731	69739
1/25.40	.035	8 VP 5	70181	70189
1/25.40	.035	10 VP 5	70171	70179
1 1/4/31.75	.042	3 VP 5	69911	69919
1 1/4/31.75	.042	4 VP 5	69921	69929
1 1/4/31.75	.042	6 VP 5	69931	69939
1 1/4/31.75	.042	8 VP 5	70191	70199
1 1/4/38.10	.050	2 VP 5	69961	69969
1 1/4/38.10	.050	3 VP 5	69981	69989
1 1/4/38.10	.050	4 VP 5	69971	69979
1 1/4/38.10	.050	6 VP 5	69991	69999
2/50.80	.050	2 VP 5	65211	65219
2/50.80	.050	3 VP 5	65221	65229
2/50.80	.050	4 VP 5	65231	65239
2/50.80	.050	6 VP 5	65241	65249

\*Specify length in feet and inches.

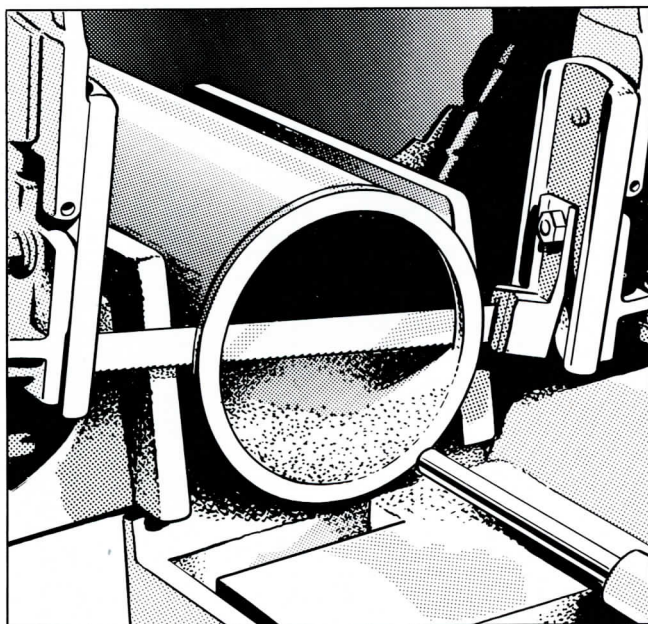


## Hard back

Hard back was developed by Nicholson® to increase production and save time on tough jobs, such as cutting structural shapes where guides must be set some distance apart in relation to thickness or material being cut.

Added beam strength, plus increased tensioning, provide greater rigidity for more efficient and economical use in most applications requiring heavy feed pressures. Especially recommended for cut-off and contour sawing.

A faster, straighter-cutting band saw. No premature fatigue. No side scoring, peening, swedging or loss of time through breakage. On cut-off work, often three times as efficient as regular blades.



Width "/mm	Gauge Inches	Teeth Per Inch	Catalog & Nida/Sida Numbers		Welded* Lengths
			100'/30.5m Coil	250'/76m Coil	
1/6.35	.025	10 Raker	66181	66182	66189
1/6.35	.025	14 Raker	66201	66202	66209
1/6.35	.025	18 Raker	66211	66212	66219
1/6.35	.025	24 Raker	66221	66222	66229
1/6.35	.025	4 Skip	66271	66272	66279
1/6.35	.025	6 Skip	66281	66282	66289
1/6.35	.025	4 Hook	66241	66242	66249
1/6.35	.025	6 Hook	66251	66252	66259
3/9.52	.025	8 Raker	66291	66292	66299
3/9.52	.025	10 Raker	66301	66302	66309
3/9.52	.025	14 Raker	66321	66322	66329
3/9.52	.025	18 Raker	66331	66332	66339
3/9.52	.025	4 Skip	66401	66402	66409
3/9.52	.025	4 Hook	66361	66362	66369
3/9.52	.025	6 Hook	66371	66372	66379
1/12.70	.025	6 Raker	66451	66452	66459
1/12.70	.025	10 Raker	66471	66472	66479
1/12.70	.025	14 Raker	66491	66492	66499
1/12.70	.025	18 Raker	66501	66502	66509
1/12.70	.025	24 Raker	66511	66512	66519
1/12.70	.025	10 Wavy	66521	66522	66529
1/12.70	.025	14 Wavy	66531	66532	66539
1/12.70	.025	24 Wavy	66541	66542	66549
1/12.70	.025	3 Skip	66591	66592	66599
1/12.70	.025	4 Skip	66601	66602	66609
1/12.70	.025	3 Hook	66551	66552	66559
1/12.70	.025	4 Hook	66561	66562	66569
1/12.70	.025	6 Hook	66571	66572	66579
3/15.87	.032	8 Raker	66641	66642	66649
3/15.87	.032	10 Raker	66651	66652	66659
3/15.87	.032	14 Raker	66671	66672	66679
3/15.87	.032	18 Raker	66681	66682	66689
3/15.87	.032	14 Wavy	67091	67092	67099
3/19.05	.032	6 Raker	66701	66702	66709
3/19.05	.032	8 Raker	66711	66712	66719
3/19.05	.032	10 Raker	66721	66722	66729
3/19.05	.032	12 Raker	66731	66732	66739
3/19.05	.032	14 Raker	66741	66742	66749
3/19.05	.032	8 Wavy	66761	66762	66769
3/19.05	.032	10 Wavy	66771	66772	66779
3/19.05	.032	12 Wavy	66781	66782	66789
3/19.05	.032	14 Wavy	66791	66792	66799
3/19.05	.032	18 Wavy	66801	66802	66809
3/19.05	.032	3 Skip	66861	66862	66869
3/19.05	.032	3 Hook	66821	66822	66829
3/19.05	.032	6 Hook	66841	66842	66849
1/25.40	.035	6 Raker	66901	66902	66909
1/25.40	.035	8 Raker	66911	66912	66919
1/25.40	.035	10 Raker	66921	66922	66929
1/25.40	.035	14 Raker	66931	66932	66939
1/25.40	.035	10 Wavy	66941	66942	66949
1/25.40	.035	2 Hook	66961	66962	66969
1/25.40	.035	3 Hook	66971	66972	66979
1 1/4/31.75	.042	6 Raker	—	—	67019
1 1/4/31.75	.042	8 Raker	—	—	67029

\*Specify length in feet and inches.

# Hard edge flexible back

Magicut® blades for smooth, efficient performance. Nicholson® hard edge flexible back blades are recommended for contour machines run in the high speed range of 500 to 5000 S.F.M. The hard edge flex back blade offers greater flex life in contour cutting of wood, plastic, paper and non-ferrous metals.

Width "/mm	Gauge Inches	Teeth Per Inch	Catalog & Nida/Sida Numbers		
			100'/30.50m Coil	250'/76.20m Coil	Welded* Lengths
1/8"/1.58	.025	24 Raker	67111	—	67119
1/8"/1.58	.025	24 Raker	67121	—	67129
1/8"/1.58	.025	32 Wave	67131	—	67139
3/16"/3.17	.025	14 Raker	67181	—	67189
3/16"/3.17	.025	18 Raker	67191	—	67199
3/16"/3.17	.025	24 Raker	67201	—	67209
3/8"/4.76	.025	10 Raker	67221	67222	67229
3/8"/4.76	.025	14 Raker	67231	67232	67239
3/8"/4.76	.025	18 Raker	67241	67242	67249
3/8"/4.76	.025	24 Raker	67251	67252	67259
3/8"/4.76	.025	4 Skip	67291	67292	67299
3/8"/4.76	.025	6 Skip	67301	67302	67309
1/2"/6.35	.025	10 Raker	67341	67342	67349
1/2"/6.35	.025	12 Raker	67351	67352	67359
1/2"/6.35	.025	14 Raker	67361	67362	67369
1/2"/6.35	.025	18 Raker	67371	67372	67379
1/2"/6.35	.025	24 Raker	67381	67382	67389
1/2"/6.35	.025	14 Wavy	67391	—	67399
1/2"/6.35	.025	32 Wavy	67421	67422	67429
1/2"/6.35	.025	4 Hook	67441	67442	67449
1/2"/6.35	.025	4 Hook ETS	—	70302	70309
1/2"/6.35	.032	4 Hook ETS	—	67532	67539
1/2"/6.35	.025	6 Hook	67451	67452	67459
1/2"/6.35	.025	4 Skip	67491	67492	67499
1/2"/6.35	.025	6 Skip	67501	67502	67509
5/8"/9.52	.025	8 Raker	67541	67542	67549
5/8"/9.52	.025	10 Raker	67551	67552	67559
5/8"/9.52	.025	12 Raker	67561	—	67569
5/8"/9.52	.025	14 Raker	67571	67572	67579
5/8"/9.52	.025	18 Raker	67581	67582	67589
5/8"/9.52	.025	24 Raker	67591	67592	67599
5/8"/9.52	.025	3 Hook	67631	67632	67639
5/8"/9.52	.025	4 Hook	67641	67642	67649
5/8"/9.52	.025	6 Hook	67651	67652	67659
5/8"/9.52	.025	3 Skip	67681	67682	67689
5/8"/9.52	.025	4 Skip	67691	67692	67699
5/8"/9.52	.025	6 Skip	67701	67702	67709
5/8"/9.52	.025	4 Hook ETS	—	70312	70319
5/8"/9.52	.032	3 Hook ETS	—	67712	67719
3/4"/12.70	.020	10 Raker	67721	67722	67729
3/4"/12.70	.020	14 Raker	67731	67732	67739
3/4"/12.70	.020	18 Raker	67741	67742	67749
3/4"/12.70	.020	24 Wavy	68981	68982	68989
3/4"/12.70	.025	4 Raker	67771	67772	67779
3/4"/12.70	.025	6 Raker	67781	67782	67789
3/4"/12.70	.025	8 Raker	67791	67792	67799
3/4"/12.70	.025	10 Raker	67801	67802	67809
3/4"/12.70	.025	12 Raker	67811	67812	67819
3/4"/12.70	.025	14 Raker	67821	67822	67829
3/4"/12.70	.025	18 Raker	67841	67842	67849
3/4"/12.70	.025	24 Raker	67851	67852	67859
3/4"/12.70	.025	10 Wavy	67871	67872	67879
3/4"/12.70	.025	14 Wavy	67881	67882	67889

\*Specify length in feet and inches.

Width "/mm	Gauge Inches	Teeth Per Inch	Catalog & Nida/Sida Numbers		
			100'/30.50m Coil	250'/76.20m Coil	Welded* Lengths
3/4"/12.70	.025	18 Wavy	67891	67892	67899
3/4"/12.70	.025	24 Wavy	67901	67902	67909
3/4"/12.70	.025	2 Hook	67911	67912	67919
3/4"/12.70	.025	3 Hook	67921	67922	67929
3/4"/12.70	.025	4 Hook	67931	67932	67939
3/4"/12.70	.025	6 Hook	67941	67942	67949
3/4"/12.70	0.32	2 Hook ETS	—	70322	70329
3/4"/12.70	0.32	3 Hook ETS	—	68002	68009
3/4"/12.70	.025	3 Skip	67961	67962	67969
3/4"/12.70	.025	4 Skip	67971	67972	67979
3/4"/12.70	.025	6 Skip	67981	67982	67989
7/8"/15.87	.032	8 Raker	68071	68072	68079
7/8"/15.87	.032	10 Raker	68081	68082	68089
7/8"/15.87	.032	14 Raker	68101	68102	68109
7/8"/15.87	.032	18 Raker	68111	68112	68119
7/8"/15.87	.032	10 Wavy	68141	68142	68149
7/8"/15.87	.032	14 Wavy	68161	68162	68169
7/8"/15.87	.032	4 Hook	68181	68182	68189
7/8"/15.87	.032	3 Skip	68201	68202	68209
7/8"/15.87	.032	4 Skip	68211	68212	68219
7/8"/19.05	.032	6 Raker	68241	68242	68249
7/8"/19.05	.032	8 Raker	68251	68252	68259
7/8"/19.05	.032	10 Raker	68261	68262	68269
7/8"/19.05	.032	12 Raker	68271	68272	68279
7/8"/19.05	.032	14 Raker	68281	68282	68289
7/8"/19.05	.032	18 Raker	68291	68292	68299
7/8"/19.05	.032	8 Wavy	68301	68302	68309
7/8"/19.05	.032	10 Wavy	68311	68312	68319
7/8"/19.05	.032	12 Wavy	68321	68322	68329
7/8"/19.05	.032	14 Wavy	68331	68332	68339
7/8"/19.05	.032	18 Wavy	68341	68342	68349
7/8"/19.05	.032	2 Hook	68371	68372	68379
7/8"/19.05	.032	3 Hook	68381	68382	68389
7/8"/19.05	.032	4 Hook	68391	68392	68399
7/8"/19.05	.032	6 Hook	68401	68402	68409
7/8"/19.05	.032	3 Skip	68441	68442	68449
7/8"/19.05	.032	4 Skip	68461	68462	68469
7/8"/19.05	.032	3 Bana	68451	68452	68459
1/25.40	.035	4 Raker	68521	68522	68529
1/25.40	.035	6 Raker	68531	68532	68539
1/25.40	.035	8 Raker	68541	68542	68549
1/25.40	.035	10 Raker	68551	68552	68559
1/25.40	.035	14 Raker	68571	68572	68579
1/25.40	.035	10 Wavy	68581	68582	68589
1/25.40	.035	2 Hook	68591	68592	68599
1/25.40	.035	3 Hook	68601	68602	68609
1/25.40	.035	4 Hook	68611	68612	68619
1/25.40	.035	6 Hook	68621	68622	68629
1/25.40	.035	2 Skip	68661	68662	68669
1/25.40	.035	3 Skip	68671	68672	68679
1/25.40	.035	4 Skip	68681	68682	68689
1 1/4"/31.75	.042	6 Raker	68801	68802	68809
1 1/4"/31.75	.042	8 Raker	68811	68812	68819
1 1/4"/31.75	.042	3 Skip	68841	68842	68849



## \* Hard edge flex back variable pitch for wood

These specially designed blades give better performance and standard tooth style while reducing noise and vibration. They are recommended for production cutting of wood and other non-ferrous material when noise or vibration is a problem. They replace the velcut tooth style of the past.



Width "/mm	Gauge Inches	Teeth Per Inch	Catalog & Nida/Sida Numbers		
			100'/30.50m Coil	250'/76.20m Coil	Welded** Lengths
3/8"/6.35	.025	4 VP Hook	70701	70702	70709
1/2"/6.35	.032	4 VP Hook	70711	70712	70719
5/8"/9.52	.025	3 VP Hook	70721	70722	70729
3/4"/9.52	.025	4 VP Hook	70731	70732	70739
7/8"/9.52	.032	3 VP Hook	70741	70742	70749
1"/9.52	.032	4 VP Hook	70751	70752	70759
1 1/4"/12.70	.025	4 VP Hook	70761	70762	70769
1 1/2"/12.70	.032	3 VP Hook	70771	70772	70779
1 3/4"/19.05	.032	3 VP Hook	70781	70782	70789
1 7/8"/25.40	.035	3 VP Hook	70791	70792	70799
2"/6.35	.025	4 Hook ETS	—	70302	70309
2 1/4"/6.35	.032	4 Hook ETS	—	67532	67539
2 1/2"/9.52	.025	4 Hook ETS	—	70312	70319
2 3/4"/9.52	.032	3 Hook ETS	—	67712	67719
3"/12.70	.032	2 Hook ETS	—	70322	70329
3 1/2"/12.70	.032	3 Hook ETS	—	68002	68009

\*\* Specify length in feet and inches.

\* Replaces flexible back bandsaw with velcut set and E.T.S.

## Friction cutting

Friction sawing, at blade speeds from 5000 to 15000 feet per minute, is one of the fastest, most economical methods of cutting ferrous metals up to 1/2" / 12.70mm thick. The frictional heat, generated by the high velocity of the blade, softens the metal being cut. The saw tooth then removes this softened film of metal in the form of red-hot chips.

Nicholson friction blades are engineered to withstand the heat generated in friction sawing and provide the strength needed to withstand heavy feeds and high speeds.

Nicholson friction blades assure the most efficient metal removal in shaping and trimming stainless, monel and armor plate. They are recommended for use on sturdy machines with large diameter wheels.

For specific recommendations on friction cutting of materials over 1/2" / 12.70mm thick, consult your Nicholson sales engineer through your Nicholson distributor, or write to Nicholson directly.

Width "/mm	Gauge Inches	Teeth Per Inch	Catalog & Nida/Sida Numbers		
			100'/30.50m Coil	250'/76.20m Coil	Welded* Lengths
1 1/2"/12.70	.032	10 Raker	68891	68892	68899
1 3/4"/12.70	.032	14 Raker	68901	68902	68909
1 7/8"/15.87	.035	10 Raker	68911	68912	68919
2"/15.87	.035	14 Raker	68921	68922	68929
2 1/4"/19.05	.035	10 Raker	68931	68932	68939
2 1/2"/19.05	.035	14 Raker	68941	68942	68949
2 3/4"/25.40	.035	10 Raker	68951	68952	68959
3"/25.40	.035	14 Raker	68961	68962	68969

\* Specify length in feet and inches.

## Butcher band saw blades

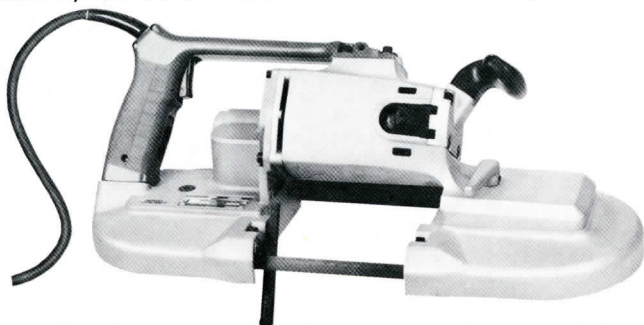
Nicholson Butcher band saw blades have light gauge and light set with large gullets for fast, easy cutting with minimum kerf loss.

Width "/mm	Gauge Inches	Teeth Per Inch	Catalog & Nida/Sida Numbers		
			100'/30.50m Coil	250'/76.20m Coil	Welded* Lengths
3/8"/15.87	.020	4 Butcher	68041	68042	68049
1/2"/15.87	.025	4 Butcher	68061	68062	68069

\* Specify lengths in feet and inches.

## Blades for portable band saw machines

Nicholson blades for portable band saw machines are made to ensure peak efficiency and performance on machines such as those by Milwaukee Electric Tool, Porter-Cable and Rigid Tool.



### Available custom welded in the following specifications:

Width "/mm	Gauge Inches	Length	Teeth Per Inch	Type	Cat. /N/S No. /No.
1 1/2"/12.70	.020	3' 8 1/8"	10 Raker	Bi-Metalloy I	69169
1 3/4"/12.70	.020	3' 7 1/8"	14 Raker	Bi-Metalloy I	69189
1 7/8"/12.70	.020	3' 8 3/4"	18 Raker	Bi-Metalloy I	69199
2"/12.70	.020	3' 8 1/8"	10 Raker	Flex Back	67729
2 1/4"/12.70	.020	3' 8 1/8"	14 Raker	Flex Back	67739
2 1/2"/12.70	.020	3' 8 3/4"	18 Raker	Flex Back	67749
2 3/4"/12.70	.020	3' 8 3/8"	24 Wavy	Flex Back	68989

All flex back blades are packaged 10 per master carton only.

# Blade comparison chart

## Carbon steel

Manufacturers	Hard edge flex back	Hard edge hard back
Nicholson®	Hard edge	Hard back
American Saw (Lenox)	Die-Master	Neo-Type
Armstrong Blum (marvel)	Hard edge flex back	Hard back hard edge
Atlantic Saw	Flex back	Hi-Flex
Capewell Mfg. Company	Flex back hard tooth	Tuf-back
Clemson Bros. (Star, Victor)	Flex back	Tru-Cut
Diamond Saw (broach, sterling)	Hard edge	Tri-Temp
Disston, Inc.	Flex back hard edge	Temper back
DoAll	Precision standard carbon	Dart
Miller Falls	Tuf-Flex.	Tuf-Temper
Simonds	Hard edge	Si-Met
Spartan Flex	Spar-Cut	Flexard
Starrett	Hard Edge Flex Back	Premium
Henry G. Thompson (Milford)	Flex Back	Super TT-44

## Welded edge

M2	M41 or M42
Bi-Metalloy® I	Bi-Metalloy® III
Electron Weld	Super Electron Weld
High Speed Welded Edge	Cobalt H.S. edge
Gold Line Bi-Metal	
Super T Weld	
Welded Tooth	
Super Weld	
Bi Metal	
Imperial 100	Imperial 101
Blu-Mol Welded Edge	
Weld Edge	Weld Edge
Saf-T-Edge	Cobalt H.S. Edge
Powerband	
Rezistor Bi-Band	Cobra

## Solutions to band saw problems

### Chipped teeth

1. Blade too coarse for material being cut. Use finer tooth blade.
2. Feed pressure too heavy in relation to blade speed. Either decrease feed or increase speed slightly.

### Stripped teeth

1. Blade too coarse for material being cut – chip load is too heavy per tooth. Change to finer tooth blade.
2. Blade too fine – chips loading in gullets. Change to a coarser tooth blade.
3. Irregular feed pressure. Check hydraulic system for air in the lines or dirty oil.
4. Excessive feed pressure, causing loading. Reduce pressure.
5. Not enough speed, causing shock, increase speed.
6. Hard spots in the material causing shock, increase feed pressure.

### Premature wear

1. Excessive blade speed or excessive feed pressure. Balance blade speed and feed pressure.
2. Insufficient blade tension causing blade to cock slightly, preventing straight cut. Increase blade tension.
3. Insufficient cutting fluid, wrong type of cutting fluid, or concentration of cutting fluid allows excessive heat to be generated at the tooth tips, reducing wear resistance. Cutting fluid should be the proper type for the material being cut.

### Blade breakage

1. Improper blade tension. Check with pressure gauge or tension measuring device.
2. Worn back-up bearings and/or worn side guides. Replace worn parts and make sure side guides have been accurately ground for parallel position.
3. Excessive blade speed. The faster a blade is run, the sooner it will fatigue. Flexing around the wheels induces fatigue, a common problem to all high speed bands. Reduce blade speed slightly and reset feed pressure to maintain cutting rate.
4. Excessive feed pressure. Reduce pressure.

### Crooked cuts

1. Improper guide adjustment or worn faces on side of guides. Guides should not be too tight. Machines using high performance bands must be equipped with carbide-faced guides to minimize wear and support the blade properly. The thrust bearing should be checked against freezing or grooving. Replace if worn more than .020" or chipped.
2. Chips welding to teeth due to inadequate chip removal or improper cutting fluid. Check chip brush to be sure it is removing chips properly. Check cutting fluid to be sure it is providing adequate lubrication and chip removal.
3. Excessive feed pressure. Reduce pressure.
4. Insufficient blade tension. Check tension with pressure gauge.
5. Improper blade alignment. Check alignment of flange type wheels.

### Rough cutting

1. Improper tooth selection. See tooth selection chart on pages 72 & 73.
2. Bad set-up. Support work more firmly.

### Blade edge sweeping

1. Worn back-up guides. Replace.
2. Back-up guide fails to rotate. Replace or clean to allow free rotation.
3. Excessive feed pressure. Reduce.
4. Blade too close to flanges. Adjust.

### Blade vibration

1. Harmonics. Change feed, speed or tooth.

### Chips welding to teeth

1. Brush not operating. Check it closely.
  2. Excessive feed. Reduce.
  3. Speed too high. Reduce.
  4. Improper cutting fluid or insufficient cutting fluid. Increase amount of cutting fluid, increase concentration of cutting fluid or change to the proper cutting fluid.
- Note: Water soluble or synthetic coolants should be mixed 5:1 (5 parts water to 1 part coolant concentrate). Improper coolant mix or application may cause chip welding, chipped teeth, blade breakage or premature wear.

## Power hacksaw blades

Power hack sawing is an extremely economical and efficient method of separating metal. To get maximum performance it is necessary to operate the machine correctly and to maintain it in the best possible condition. Select the correct blade – the type of power blade to use is largely determined by the material to be cut. Its proper selection pays dividends. Combine with it the correct tooth specification, speed and feed and you get maximum cutting and longer blade life. There is a particular blade best suited for certain types of cutting. Three Nicholson power blades, produced

from quality high speed steel, have been developed. There is a Nicholson power blade for your machine sawing job. The Nicholson power blade selector is a useful guide. Remember that tooth selection may vary according to individual machines as well as specific applications. Where two or more specifications are given, tooth is determined by size and shape of material being cut. Width of blade is determined by usage, the design of machine, length of blade and feed to be applied. Narrow blades are used for normal duty. Wide blades are



preferable for heavy duty cutting of multiple bars or longer cross sections.

#### General recommendations for power machine use

3 Tooth: Greatest chip clearance for large sections to increase tooth penetration.

4 Tooth: Has greater chip clearance which enables faster cutting on large or readily machined metals.

6 Tooth: Frequently used for machining the harder alloys as well as for miscellaneous sawing.

10-14 Tooth: The majority of light duty power saws use 10-Tooth and 14-Tooth saws because application is limited to smaller sections.

Blade speed in power sawing ranges from 60–150 strokes per minute. In cutting of soft metals, a speed up to the maximum 150 strokes may be employed. Lower speeds are advisable when the material to be cut is not

readily machinable — and will be most efficient in production and increased blade life. Excessive feed and blade speed increase the rate of cutting but add to blade cost. Many times it is economical to sacrifice maximum blade life in order to get utmost production at reduced operating cost. Moderate feed pressure is recommended for soft materials and light cross sections. Moderate feed is also suggested when using a fine tooth to minimize clogging.

Increased feed is required on harder materials and heavier sections.

Increased feed may be used with coarse tooth blades to give maximum production on softer materials.

Reduced feed is frequently necessary on positive feed power hack saw machines as cross sections increase and machinability decreases.

It is good sawing practice to avoid starting the cut on a sharp corner. If unavoidable, begin with light pressure.

## Nicholson® power blade tooth selector

Material	Teeth	Strokes Per Minute
<b>Ferrous</b>		
Drill Rod	10	90
Forging Stock, Alloy	4–6	90
Forging Stock, Mild	3–4–6	120
High Temperature Alloys	3–4–6	30–90
Iron, Cast	6–10	90–120
Iron, Malleable	6–10	90
Rails	6–10	60–90
Steel, Alloy	4–6	60–90
Steel, Carbon Tool	4–6	90–120
Steel, High Speed	6–10	60–90
Steel, Machinery	3–4–6	90–120
Steel, Stainless	3–4–6	30–90
Steel, Structural	6–10	90–120
Steel Die Blocks	4–6	30–90

Material	Teeth	Strokes Per Minute
Steel Pipe	6–10	120
Tubing, Thick Wall	6–10	120
Tubing, Thin Wall	14	120
<b>Non Ferrous</b>		
Aluminum	3–4–6	120
Babbitt	4–6	120
Brass Castings, Hard	4–6	90–120
Brass Castings, Soft	4–6	120
Bronze Castings	4–6–10	90
Bronze, Manganese	6–10	60–90
Copper Bars	3–4–6	90
Copper Tubing	10	120
Monel Metal	4–6	60–90

The use of cutting compound is recommended on all ferrous metals except cast iron.

## Welded edge shatterproof

This is a shatterproof and unbreakable power blade which satisfies every safety requirement. Because the tough alloy steel of the blade's back can support any cutting load demanded of the hardened edge-teeth, the blade need not be "babied" and can be used by inexperienced operators as well as skilled machinists. The narrow high speed steel cutting edge that is welded to the tough alloy steel back has the ultimate hardness of an all hard blade together with its extremely long life expectancy.

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WE 1406-6

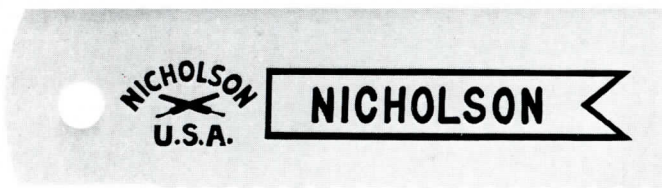
Cat No.	N/S No.	Blade No.	Length "/mm	Width "/mm	Gauge Inch	Teeth per inch	Wt. Per in lb/kg	100
60001	WE-1210-5	12/304	1/25.40	.050	10	20/9.07		
60007	WE-1214-5	12/304	1/25.40	.050	14	23/10.43		
60013	WE-1410-5	14/354	1/25.40	.050	10	23/10.43		
60025	WE-1414-5	14/354	1/25.40	.050	14	23/10.43		
60037	WE-1406-6	14/354	1 1/31.75	.062	6	35/15.87		
60051	WE-1410-6	14/354	1 1/31.75	.062	10	35/15.87		
60075	WE-1404-7	14/354	1 1/38.10	.075	4	51/23.13		
60087	WE-1406-7	14/354	1 1/38.10	.075	6	51/23.13		
60128	WE-1710-5	17/380	1/25.40	.050	10	28/12.70		
60134	WE-1714-5	17/380	1/25.40	.050	14	28/12.70		
60152	WE-1706-6	17/380	1 1/31.75	.062	6	43/19.50		
60164	WE-1710-6	17/380	1 1/31.75	.062	10	43/19.50		
60176	WE-1806-6	18/456	1 1/31.75	.062	6	45/20.41		
60188	WE-1810-6	18/456	1 1/31.75	.062	10	45/20.41		
60212	WE-1804-7	18/456	1 1/38.10	.075	4	64/29.02		
60224	WE-1806-7	18/456	1 1/38.10	.075	6	64/29.02		
60248	WE-1804-8	18/456	1 1/44.45	.088	4	88/39.91		
60262	WE-1806-8	18/456	1 1/44.45	.088	6	88/39.91		
60301	WE-2104-8	21/532	1 1/44.45	.088	4	104/47.17		
60315	WE-2106-8	21/532	1 1/44.45	.088	6	104/44.77		
60356	WE-2406-8	24/608	1 1/44.45	.088	6	125/56.69		
60368	WE-2403-0	*24/608	2/50.80	.100	3	49/67.58		
60380	WE-2404-0	*24/608	2/50.80	.100	4	149/67.58		
60416	WE-3004-0	30/760	2 1/2 63.50	.100	4	231/104.78		

\*On 24"/608mm x .100 blades 1/8" /9.92mm holes is standard.

## All hard Molybdenum

Distinguished for its unusually accurate cutting qualities and long life on extended production runs, this blade is recommended for use on low and medium alloy steels up through the tough and abrasive varieties. Each blade is individually inspected to assure maximum performance.

The all hard characteristic of the blade makes it well adapted for straight cuts. It is typically Nicholson® in high quality.



Cat. /N/S No. /No.	Blade No.	Length "/mm	Width "/mm	Gauge "/mm	Teeth per Inch	Wt. Per 100 in lb/kg
60839	MN1214-3	*12/304	5/15.87	.032	14	7 1/3.40
60853	MN1218-3	*12/304	5/15.87	.032	18	7 1/3.40
60867	MN1210-5	12/304	1/25.40	.050	10	19/8.61
60881	MN1214-5	12/304	1/25.40	.050	14	19/8.61
60895	MN1410-5	14/354	1/25.40	.050	10	21/9.52
60909	MN1414-5	14/354	1/25.40	.050	14	21/9.52
60923	MN1406-6	14/354	1 1/31.75	.062	6	32/14.51
60937	MN1410-6	14/354	1 1/31.75	.062	10	32/14.51
60963	MN1404-7	14/354	1 1/38.10	.075	4	46/20.86
60977	MN1406-7	14/354	1 1/38.10	.075	6	46/20.86
61019	MN1710-5	17/380	1/25.40	.050	10	25/11.33
61032	MN1714-5	17/380	1/25.40	.050	14	25/11.33
61046	MN1704-6	17/380	1 1/31.75	.062	4	39/17.69
61058	MN1706-6	17/380	1 1/31.75	.062	6	39/17.69
61072	MN1710-6	17/380	1 1/31.75	.062	10	39/17.69
61092	MN1806-6	18/456	1 1/31.75	.062	6	40/18.47
61106	MN1810-6	18/456	1 1/31.75	.062	10	40/18.47
61133	MN1804-7	18/456	1 1/38.10	.075	4	59/26.76
61147	MN1806-7	18/456	1 1/38.10	.075	6	59/26.76
61173	MN1804-8	18/456	1 1/44.45	.088	4	84/38.10
61187	MN1806-8	18/456	1 1/44.45	.088	6	84/38.10
61241	MN2104-8	21/532	1 1/44.45	.088	4	95/43.09
61255	MN2106-8	21/532	1 1/44.45	.088	6	95/43.09
61313	MN2403-0	**24/608	2/50.80	.100	3	142/64.41
61325	MN2404-0	**24/608	2/50.80	.100	4	142/64.41

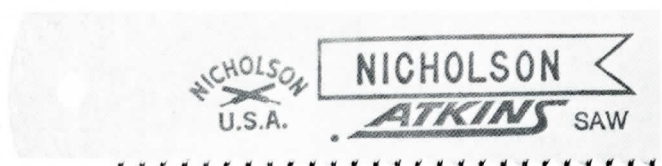
\*Can be used in hand frame as heavy duty hand hacksaw blade.

\*\*On 24"/608mm x .100 blades 5/8"/9.92mm hole is standard.

## All hard Tungsten

In power sawing there are a substantial number of situations in which the use of a premium priced blade is fully justified. When such circumstances do exist the choice of our all hard Tungsten will repay the user, in turn, with dividends of better work, increased production and lower overall sawing costs.

This all hard Tungsten is exceptionally effective on dense and very abrasive materials, such as high manganese steels, stainless steels, and certain bronzes.



	Blade No.	Length "/mm	Width "/mm	Gauge "/mm	Teeth per Inch	Wt. Per 100 in lb/kg
62144	TN1214-3	12/304	5/15.87	.032	14	8/3.62
62157	TN1218-3	12/304	5/15.87	.032	18	8/3.62
62170	TN1210-5	12/304	1/25.40	.050	10	20/9.07
62183	TN1214-5	12/304	1/25.40	.050	14	20/9.07
62196	TN1410-5	14/354	1/25.40	.050	10	23/10.43
62209	TN1414-5	14/354	1/25.40	.050	14	23/10.43
62222	TN1406-6	14/354	1 1/31.75	.062	6	35/15.87
62235	TN1410-6	14/354	1 1/31.75	.062	10	35/15.87
62257	TN1404-7	14/354	1 1/38.10	.075	4	50/22.67
62266	TN1406-7	14/354	1 1/38.10	.075	6	50/22.67
62316	TN1710-5	17/380	1/25.40	.050	10	27/12.24
62325	TN1714-5	17/380	1/25.40	.050	14	27/12.24
62352	TN1710-6	17/380	1 1/31.75	.062	10	42/19.05
62365	TN1806-6	18/456	1 1/31.75	.062	6	44/19.95
62378	TN1810-6	18/456	1 1/31.75	.062	10	44/19.95
62400	TN1804-7	18/456	1 1/38.10	.075	4	64/29.02
62409	TN1806-7	18/456	1 1/38.10	.075	6	64/29.02
62435	TN1804-8	18/456	1 1/44.45	.088	4	90/40.32
62448	TN1806-8	18/456	1 1/44.45	.088	6	90/40.32
62496	TN2104-8	21/532	1 1/44.45	.088	4	103/46.72
62509	TN2106-8	21/532	1 1/44.45	.088	6	103/46.72
62549	TN2406-8	24/608	1 1/44.45	.088	6	119/53.97
62571	TN2404-0	** 24/608	2/50.80	.100	4	152/68.94

\*Can be used in hand frame as heavy duty hand hacksaw blade.

\*\*On 24"/608mm x .100 blades 5/8"/9.92mm hole is standard.



## Metric all hard molybdenum Export Only



Cat. / N/S No. / No.	Blade No.	Length x Width x Gauge	Teeth per Inch	Wt. per 100 in lb/kg
61387	MN1210-5-1	300 x 25 x 1.25	10	19/8.61
61399	MN1214-5-1	300 x 25 x 1.25	14	19/8.61
61447	MN1410-5-1	350 x 25 x 1.25	10	21/9.52
61459	MN1414-5-1	350 x 25 x 1.25	14	21/9.52
61484	MN1406-6-1½	350 x 30 x 1.60	6	32/14.51
61496	MN1410-6-1½	350 x 30 x 1.60	10	32/14.51
61556	MN1610-5-1	400 x 25 x 1.25	10	24/10.88
61568	MN1614-5-1	400 x 25 x 1.25	14	24/10.88
61628	MN1610-6-1½	400 x 25 x 1.60	6	30/13.60
61640	MN1610-6-1½	400 x 25 x 1.60	10	30/13.60
61712	MN1710-6-1½	425 x 30 x 1.60	10	39/17.69
61736	MN1806-6-1½	450 x 30 x 1.60	6	40/18.14
61748	MN1810-6-1½	450 x 30 x 1.60	10	40/18.14

## Blade tensions

Keep tensioning bolt and nut lubricated for accurate readings.

Chart readings are approximate and should be used as a guide in establishing a reference point. Factors such as stud condition, lubrication, general condition of the machine and frame strength affect attainment of the optimum tensioning point.

After making several cuts, always recheck blade tension.

Nicholson® high speed welded edge shatterproof (foot pounds).  
Use torque wrench for accuracy.

Width x Gauge " / mm x "	Hacksaw Machine	TN and MN	FN	WE
1" / 25.40 x .050	Marvel	12	13	15
	Racine	10	11	13
	Peerless	3	3	4
1¼" / 31.75 x .062	Marvel	15	17	20
	Racine	15	16	18
	Peerless	4	5	6
1½" / 38.10 x .075	Marvel	21	23	28
	Racine	22	24	28
	Peerless	7	8	10
1¾" / 44.45 x .088	Marvel	24	28	30
	Racine	25	26	29
	Peerless	12	13	15
2" / 50.8 x .100	Marvel	32	34	38
	Racine	32	33	36
	Peerless	13	14	16

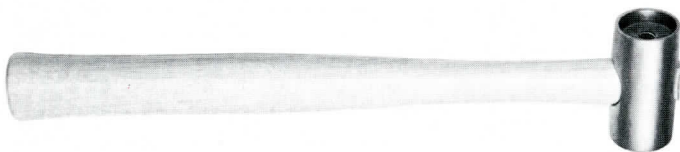
To convert foot pounds to inch pounds: multiply by 12.

# Nicholson® Industrial Hammers

## Soft faced hammers

### Industrial hammers – holders only (including handle)

Military Description GGG-H-33A (Navy Ships) Non-sparking.

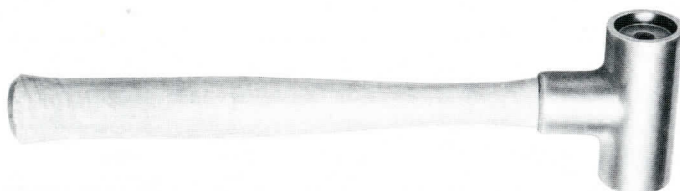


Cat. & N/S No.	Holder Number	Dia. "/mm	Size	Holder Weight oz/g	Handle Length "/mm	lb/kg	Shelf Pack
			Length "/mm				
85001	100	1/25	2/51	5/142	11 3/8/289	2/0.91	6
85008	105**	1/25	2/51	8/227	11 3/8/289	3/1.36	6
85015	150	1 1/2/38	2 3/8/60	10/283	13/330	3 3/4/	6
85022	155**	1 1/2/38	2 3/8/60	16/454	13/330	6/2.72	6
85029	200	2/51	2 1/2/63	16/484	13/330	6/2.72	6
85036	205**	2/51	2 1/2/63	28/794	13/330	10 1/2/4.78	6
85043	250	2 1/2/63	3 1/8/83	28/794	15/381	6 3/4/	6
85050	255**	2 1/2/63	3 1/8/83	54/1531	13/330	13 1/2/6.10	6
85057	300	3/76	3 3/4/95	36/1021	14/356	11 1/2/5.20	6
85064	305**	3/76	3 3/4/95	88/2495	14/356	22/9.98	6

\*\* Zinc alloy

**Note:** See page 87 for replacement handle information.

### Deadblo – holders only (including handle)



Cat. & N/S No.	Holder Number	Dia. "/mm	Size	Holder Weight oz/g	Handle Length "/mm	lb/kg	Shelf Pack
			Length "/mm				
85071	152	1 1/2/38	3 1/2/63	15/425	13/330	5 1/2/2.48	6
85078	202	2/51	4 3/8/117	32/907	13/330	12/5.44	6
85085	304	3/76	5/127	60/1701	14 1/2/362	4/1.81	1

**Note:** Ordering information for holders only

Example: To order a holder, determine size and weight required and specify catalog number. Order faces separately.

### Replaceable screw-in faces



Cat. & N/S No.	Dia. "/mm	Weight	Color	Hardness
		Each oz/g		
85091	1/25	.55/16	Brown	Soft
85098	1/25	.55/16	Red	Medium
85105	1/25	.55/16	Green	Tough
85112	1/25	.45/13	Cream	Med. Hard (Nylon)
85119	1/25	.50/14	Black	Hard
85126	1/25	.50/14	Yellow	Ex. Hard
85133	1 1/2/38	1.6/45	Brown	Soft
85140	1 1/2/38	1.6/45	Red	Medium
85147	1 1/2/38	1.6/45	Green	Tough
85154	1 1/2/38	1.4/40	Cream	Med. Hard (Nylon)
85161	1 1/2/38	1.45/40	Black	Hard
85168	1 1/2/38	1.45/40	Yellow	Ex. Hard
85175	2/51	3.4/96	Brown	Soft
85182	2/51	3.4/96	Red	Medium
85189	2/51	3.4/96	Green	Tough
85196	2/51	2.9/82	Cream	Med. Hard (Nylon)

Cat. & N/S No.	Dia. "/mm	Weight	Color	Hardness
		Each oz/g		
85203	2/51	3.0/85	Black	Hard
85210	2/51	3.0/85	Yellow	Ex. Hard
85217	2 1/2/63	6.4/182	Brown	Soft
85224	2 1/2/63	6.4/182	Red	Medium
85231	2 1/2/63	6.4/182	Green	Tough
85238	2 1/2/63	5.3/150	Cream	Med. Hard (Nylon)
85245	2 1/2/63	5.4/153	Black	Hard
85252	2 1/2/63	5.4/153	Yellow	Ex. Hard
85259	3/76	10.2/289	Brown	Soft
85266	3/76	10.2/289	Red	Medium
85273	3/76	10.2/289	Green	Tough
85280	3/76	8.4/238	Cream	Med. Hard (Nylon)
85287	3/76	9.2/261	Black	Hard
85294	3/76	9.2/261	Yellow	Ex. Hard

**Note:** Faces packed two per box. Color denotes hardness. Ordering information. Example: To order a 1 1/2"/38mm dia. medium face red, specify catalog no. 85140



## Nicholson® Hickory Handles

**Note:** Following is information necessary when ordering replacement handles for Nicholson soft face hammers. Please order by catalog no.



For Hammer No.	Handle No.	Cat. /N/S No. /No.
100	100-H	85301
105	100-H	85301
150	150-H	85307
155	150-H	85307
200	200-H	85313
205	200-H	85313
250	250-H	85319
255	255-H	85325
300	300-H	85331

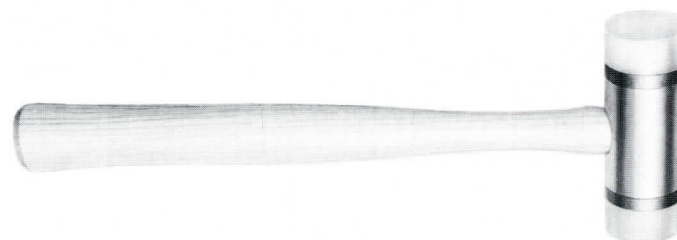
For Hammer No.	Handle No.	Cat. /N/S No. /No.
305	300-H	85331
50	50-H	85343
51	51-H	85350
52	52-H	85357
HS	HS-H	85364
BS	150-H	85307
CS	200-H	85313
TS	TS-H	85370
TSS	TS-H	85370

## Dancraft hammers with nylon faces



Cat. /N/S No. /No.	Hammer No.	Size		Handle Length "/mm	Weight oz/g	Shelf Pack
		Dia. "/mm	Length "/mm			
85376	50	1½/32	3¾/95	10½/267	13/368	1
85385	51	1½/38	4½/114	1½/292	22/624	1
85394	52	1¾/44	5½/140	12½/318	35/992	1

## Danco hammers – steel heads with nylon faces (not non-sparking)



Cat. /N/S No. /No.	Hammer No.	Size		Handle Length "/mm	Weight oz/g
		Dia. "/mm	Length "/mm		
85403	HS	1½/32	3¾/95	11½/267	18/510
85409	BS	1½/38	4½/114	12/305	26/737
85415	CS	1¾/44	5½/140	13¾/337	44/1247
85421	TSS	2¼/57	4½/114	14¾/374	52/1474
85427	TS	2¼/57	6/152	14¾/374	78/2211

**Note:** Each of the above hammers is furnished complete with two nylon forced-in-faces. Extra faces may be ordered. Determine diameter required and order by catalog no.

### Extra nylon faces for Dancraft and Danco hammers

Cat. /N/S No. /No.	Item	Size "/mm	Weight lb/g	Shelf Pack
85433	Dancraft Nylon Face	1½/32	.45/204	1
85442	Dancraft Nylon Face	1½/38	.8/363	1
85451	Dancraft Nylon Face	1¾/44	1.2/544	1
85460	Dancraft Nylon Face	2¼/57	1.9/862	1

### Brass rings for Danco hammers

Cat. /N/S No. /No.	Item	Size "/mm
85467	Brass Rings	1½/32
85474	Brass Rings	1½/38
85481	Brass Rings	1¾/44
85488	Brass Rings	2¼/57

## TW-24 (80950) Hacksaw Module



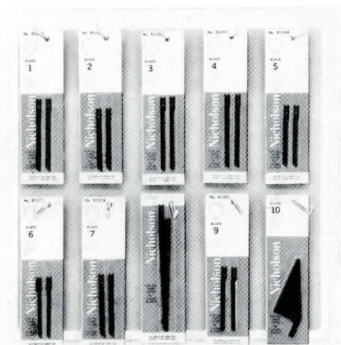
Size: 16" / 400mm x 16" / 400mm (B)  
Shipping weight: 17 lb / 7.71 kg  
Contains: Three (3) Each 80952, 80958, 80964  
TW-24A (80951) refill assortment only.

## TW-25 (63252) Hacksaw Blade Module



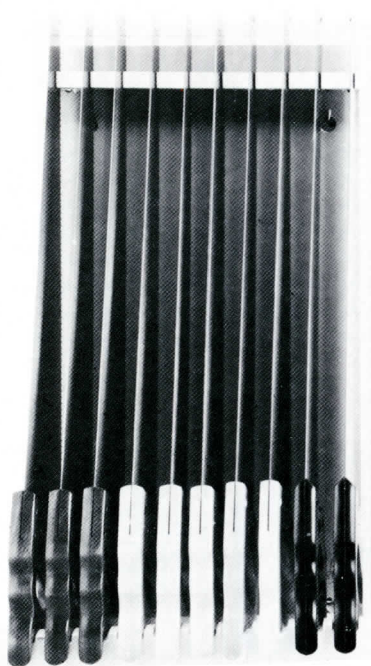
Size: 16" / 400mm x 16" / 400mm (B)  
Shipping weight: 11 lb / 4.98 kg  
Contains: Ten (10) Each 62801, 62807, Fifteen (15) Each 63256, 63268  
Twenty (20) Each 62825, 62831  
TW-25A (63253) refill assortment only.

## TW-28 (81020) Sabre Saw Blade Module



Size: 16" / 400mm x 16" / 400mm (B)  
Shipping weight: 5 lb / 2.26 kg  
Contains: Three (3) Each 81085, 81091, 81094  
Six (6) Each 81036, 81043, 81050, 81057, 81064, 81071, 81078  
TW-28A (81021) refill assortment only.

## TW-26 (80062) Handsaw Module



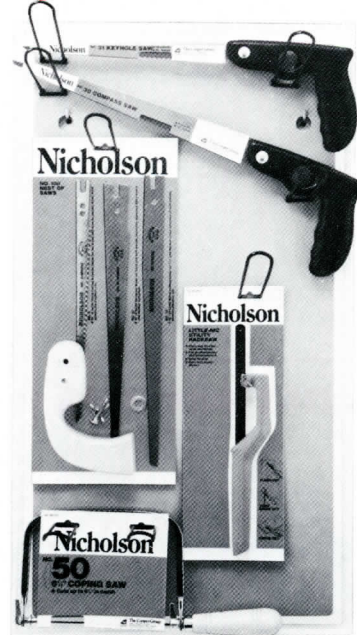
Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 26 lb / 11.79 kg  
Contains: One (1) Each 80028, 80086, Two (2) Each 80019, 80080, 80104, 80131  
TW-26A (80063) refill assortment only.

## TW-27 (80064) Handsaw Module



Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 29 lb / 13.15 kg  
Contains: One (1) Each 80028, 80086, Two (2) Each 80019, 80080, 80104, 80131

## TW-29 (81089) Special Saw Module



Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 15 lb / 6.80 kg  
Contains: Three (3) Each 80167, 80215, 80251, 80170, 80968  
TW-29A (81090) refill assortment only.



## **TW-30 (81092) Special Saw Module**



Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 13 lb/5.89 kg  
Contains: Three (3) Each 80167, 80188, 80239, 80170, 80968  
TW-30A (81093) refill assortment only.

## **TW-31 (80520) Circular Saw Module**



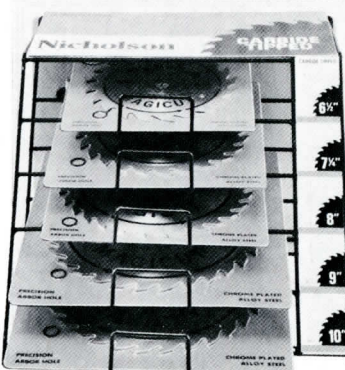
Size: 16" /400mm x 13" /330mm (C)  
Shipping weight: 18 lb/8.16 kg  
Contains: Five (5) Each 80538, 80669, 80738, 80479  
TW-31A (80521) refill assortment only.

## **TW-32 (80525) Circular Saw Module**



Size: 16" /400mm x 13" /330mm (C)  
Shipping weight: 22 lb/9.98 kg  
Contains: Five (5) Each 80557, 80687, 80758, 80497  
TW-32A (80526) refill assortment only.

## **TW-34 (80543) Circular Saw Module (Carbide)**



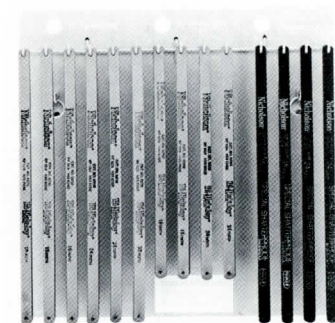
Size: 16" /400mm x 13" /330mm (C)  
Shipping weight: 15 lb/6.80 kg  
Contains: One (1) Each 80912, 80914  
Two (2) Each 80894, 80904, 80908  
TW-34A (80544) refill assortment only.

## **TW-33 (80535) Circular Saw Module**



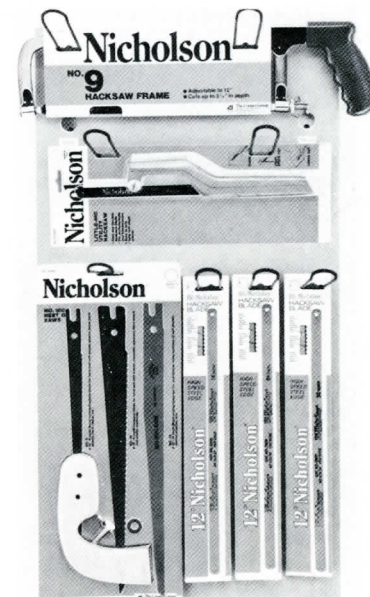
Size: 16" /400mm x 13" /330mm (C)  
Shipping weight: 19 lb/8.61 kg  
Contains: Three (3) Each 80566, 80696, 80768, 80506  
TW-33A (80536) refill assortment only.

## **TW-35 (63193) Hacksaw Blade Module**



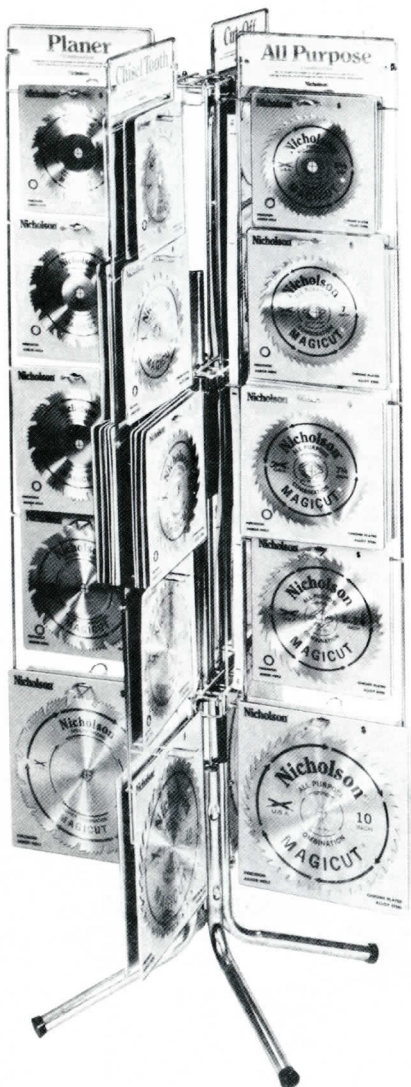
Size: 16" /400mm x 16" /400mm (B)  
Shipping weight: 9 lb/4.08 kg  
Contains: Thirty (30) Each 62723  
Twenty (20) Each 62749, 63145, 63158  
Ten (10) Each 62776, 62635, 62659  
TW-35A (63195) refill assortment only.

## **TW-101 (81010) Saw Module**



Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 13 lb/5.89 kg  
Contains: Two (2) Each 80968, 80167, 80958  
Ten (10) Each 62837, 62831, 62825  
TW-101A (81011) refill assortment only.

## C-76-R (81130) Circular Saw Blade Display



Size: 26" / 661mm x 57" / 1449mm

Shipping Weight: 94 lbs/42.63 kg

Contains: One (1) Each 80566, 80583, 80696, 80714, 80768, 80778, 80636, 80646, 80446, 80456, 80506, 80515, 80894, 80901, 80908, 80816, 80826

Two (2) Each 80538, 80547, 80669, 80678, 80738, 80748, 80607, 80616, 80415, 80425, 80479, 80488, 80904, 80786, 80796

Three (3) Each 80497, 80806

Four (4) Each 80626, 80436

Five (5) Each 80557, 80687, 80758.

C-76-RA Refill Assortment only  
(Catalog No. 81131).



# Nicholson® Numerical Index

Abbreviations: N = Files; NR = Rotary Files; NS = Handsaws;  
NHB = Bandsaws/Power & Hand Hacksaws/Industrial Hammers.

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<b>Files</b>													
00001	N2	08529	N7	19394	N13	35817	N16	36975	N19	38080	N20	41120	N25
00002	N2	08560	N7	19427	N13	35823	N16	36981	N19	38087	N20	41126	N25
00024	N2	08642	N7	19460	N13	35829	N16	36987	N19	38094	N20	41138	N24
00047	N2	08673	N7	19493	N13	35835	N16	37001	N19	38101	N20	41144	N24
00070	N2	08704	N7	19875	N13	35841	N16	37007	N19	38108	N20	41150	N24
00113	N2	08737	N7	20046	N27	35847	N16	37013	N19	38115	N21	41184	N26
00136	N2	08768	N7	20089	N27	35853	N16	37019	N19	38917	N21	41196	N26
00161	N2	08799	N7	20138	N27	35859	N16	37029	N19	38929	N21	41210	N26
00187	N2	08832	N7	20189	N27	35865	N16	37035	N20	38953	N21	41216	N26
00258	N2	08894	N7	20205	N27	35871	N16	37053	N20	38993	N21	41228	N26
00498	N2	08925	N7	20222	N27	35877	N16	37060	N20	39005	N21	41243	N26
00526	N2	09099	N7	20239	N27	35883	N16	37081	N20	39093	N21	41249	N26
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NHB = Bandsaws/Power & Hand Hacksaws/Industrial Hammers.

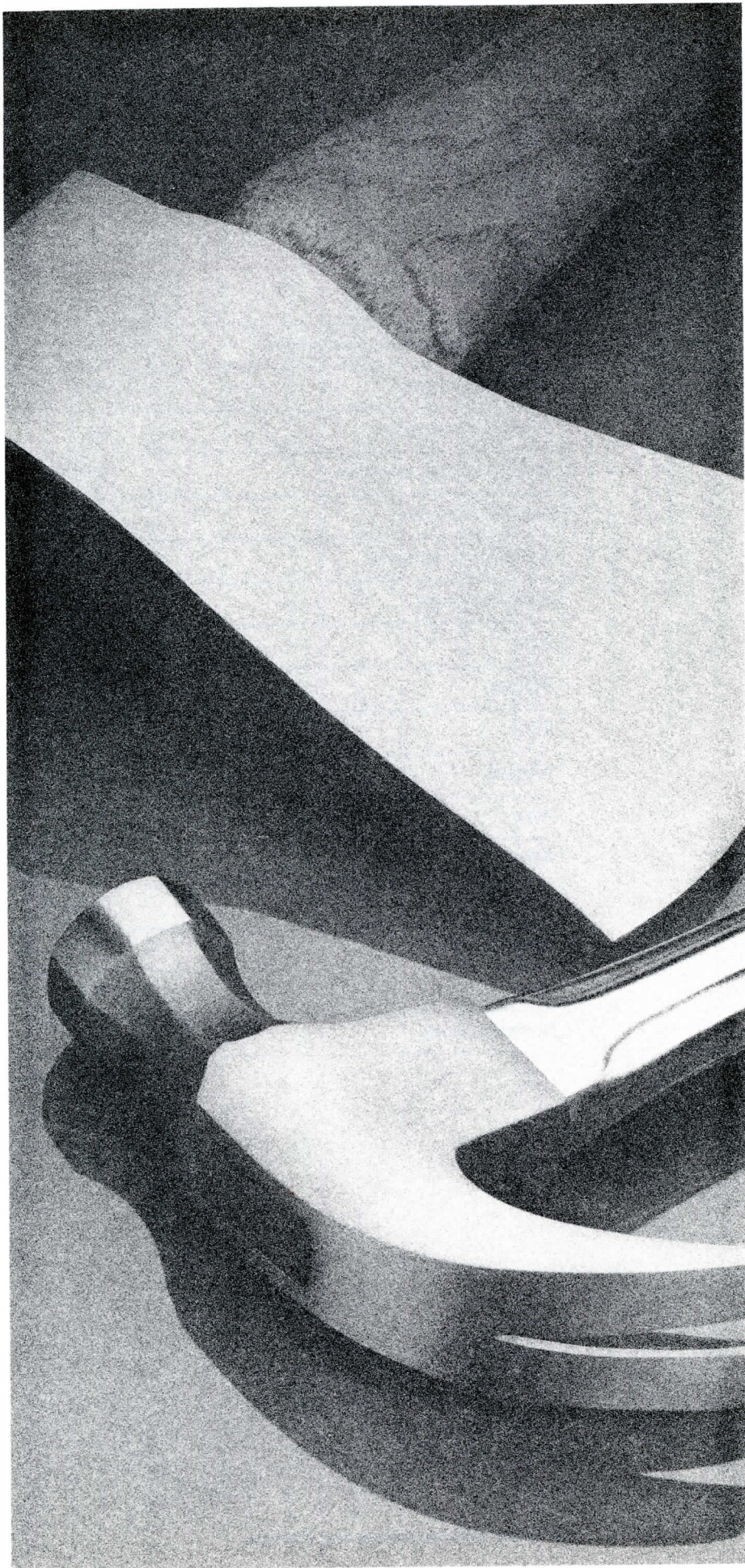
Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
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67452	NHB80	68069	NHB81	68801	NHB80	69921	NHB78	81239	NHB71
67459	NHB80	68071	NHB80	68802	NHB80	69929	NHB78	81242	NHB71
67491	NHB80	68072	NHB80	68809	NHB80	69931	NHB78	81245	NHB71
67492	NHB80	68079	NHB80	68811	NHB80	69939	NHB78	81248	NHB71
67499	NHB80	68081	NHB80	68812	NHB80	69961	NHB78	81251	NHB71
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67502	NHB80	68089	NHB80	68841	NHB80	69971	NHB78	81257	NHB71
67509	NHB80	68101	NHB80	68842	NHB80	69979	NHB78	81260	NHB71
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## Nicholson Industrial Hammers

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85474	NHB87
85481	NHB87
85488	NHB87







**Plumb<sup>®</sup>**

**CooperTools™**



# Plumb

The Plumb brand name has been famous among craftsmen since 1856 and was acquired by The Cooper Group in 1980.

The extensive offering of beautifully balanced striking tools includes standard and specialty hammers, sledges, wedges, axes and hatchets.

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### Special features available on Plumb products

- L – Long handle
- X – Checkered face
- R – Ripping claw

### Handle repair codes

- A – Adze eye
- O – Oval eye
- H – Hatchet eye

**Note:** For Industrial soft faced hammers, see pages 85–86 of the Nicholson section.

**P is an abbreviation for Plumb.**

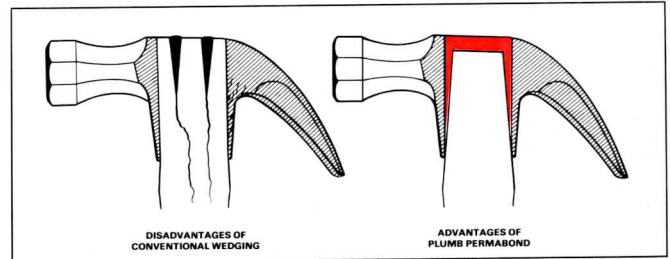


# Quality Striking Tools

Since 1856 the quality of Plumb tools has been recognized and preferred by tool users throughout the world. The special analysis steel used to make Plumb tools is forged to close tolerances and "double heat treated" to build in the toughness necessary to withstand impact. Extra care is then taken in hardening and tempering to make each part of the tool ready for the specific job it has to do. You can be sure Plumb tools have the toughness, durability and keenness to do the job. Plumb tools are engineered for balance and exacting care is taken to assure the head is "hung" on the handle at the right angle. This built-in balance gives Plumb tools extra driving power. They swing easy—hit hard.

## Advantages of Permabond®

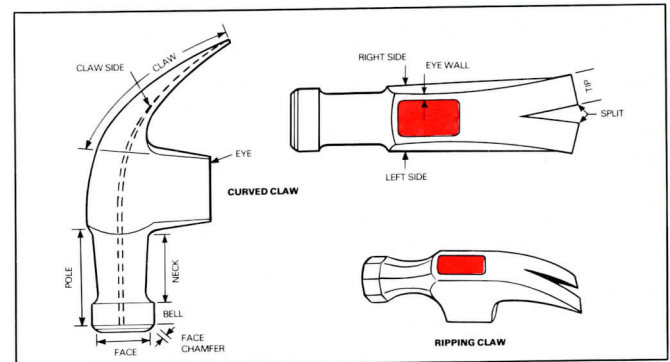
Permabond is a red-colored chemical weld used in Plumb tool eyes to join heads and handles together. Patented bonding process replaces conventional wedging which splits wood, allowing moisture to swell and shrink the handle and eventually loosen the head. Permabond seals moisture out, forms a bond so tight it takes about 2 tons of pressure to pull them apart. Permabond is used on all Plumb striking tools and is a visible plus with homeowners and tradesmen alike.



## Nail Hammers

- Face radius and chamfer are designed to provide a hard striking face.
- Mid-section is resilient yet extra strong.
- Claws are tough, sturdy; edges are beveled, with uniform taper and bite.

Nail hammers are made in two patterns; curved claw and straight or ripping claw. The face is slightly crowned with the edges beveled, although certain heavy-duty patterns may have checkered faces designed to reduce glancing blows and flying nails. Handles may be wood, tubular steel, or fiberglass. Tubular steel and fiberglass are generally furnished with rubber-type grips. \*Try the Plumb test for balance: these finely tuned hammers will actually rock on their claws.



## Safety tips

Hand tools are made in various types and sizes, degrees of hardness and different configurations for specific purposes. They should be carefully selected and used only for their intended purpose. Proper use of most types involves certain basic rules:

- Protect your eyes — always wear safety goggles.
- Strike squarely — avoid glancing blows.
- Always use a tool of suitable size and weight for the job.
- The striking face of a hammer should be approximately  $\frac{3}{8}$ " larger in diameter than the struck face of a chisel, punch, etc.
- Replace immediately upon chipping or mushrooming.
- Never use a tool with a loose or damaged handle.
- Never use a grinding wheel for redressing a cutting edge or a struck face — use a file or whetstone — redress to original shape and contour.

- Never use a hammer or maul or axe to strike another hammer or maul or axe.
- Never redress a striking face.
- Never use a tool with a dull cutting edge.

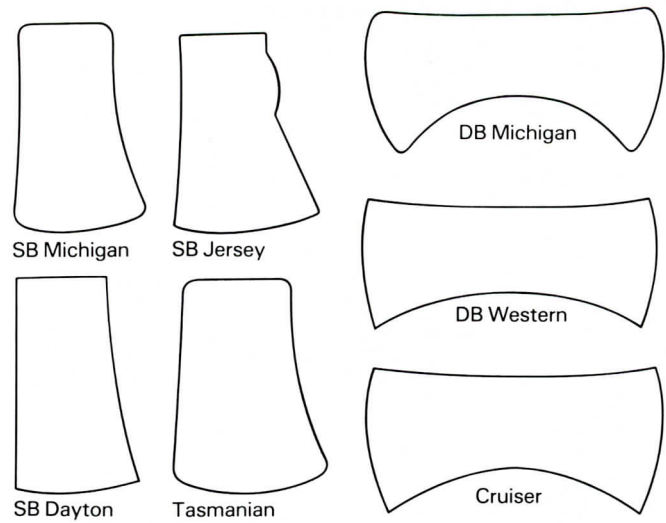


### WARNING • BE SAFE • PROTECT EYES

Nail Hammers and Hatchets are for driving and pulling common nails. Ball Pein Hammers are intended to drive against the softer head of a chisel and for general machinists' use. Any face can be made to chip if struck against another striking tool or hard surface. This will damage the tool, possibly resulting in eye or other injury. Replace immediately if chipping or mushrooming occurs.

## Axes and Hatchets

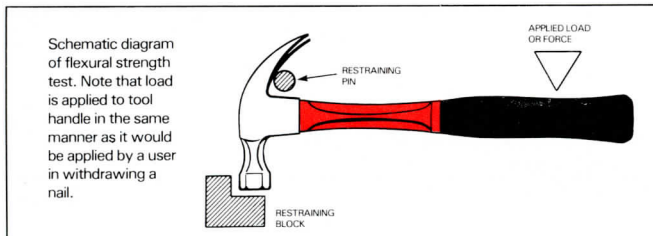
There's a wide variety of Plumb axes and hatchets to suit personal preferences and usage. The big axe heads come in a choice of the six patterns illustrated. The finish is either a fully polished head and bit, or a painted rust-resistant head with a polished bit. Needless to say, only the highest quality, hardened and tempered forged steel is used throughout. Smaller axe heads and hatchets reflect the many uses to which this handy and versatile tool can be put. Here's a specialist field where the customer knows what he wants . . . and he knows he can get it from Plumb.



## Handles

For many good reasons, the traditional choice of material for a striking tool handle is North American red hickory. It looks good and it naturally feels good. And the continuous fibers of this fine stock give great resilience and strength while minimizing impact shock. But man made materials have their advantages too. In 1955 Plumb developed and introduced the fiberglass handle. It can't rust, rot or corrode and despite its light weight it has astonishing strength. Tests on a Tinius-Olsen testing machine have shown that with more than 450 lbs of applied load, a Plumb fiberglass handle won't break.

The latest material, used in the new Ultralite line of hammers, is nickel-chrome plated tubular steel. And after extensive research and trials, Plumb has arrived at a design which is both aesthetically pleasing and functionally correct. With its smart resilient cushion grip, as fitted to fiberglass handles, this new line has the look of a winner.





## Plumb® Hammers



## Ultralite™ Hammers Premium



11-469



11-473

Strong tubular steel handle in classic handle shape (not round). Polished head, bell and striking face. PermaBond® handle to head construction. Resilient grip for cushioned comfort. Heat treated nickel-chrome plated handle for long life. Engineered for balance.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-469*	UL20	20/567	13½/343	7.2/3.27	4	Octagon
11-470*	UL16	16/454	13/330	6.0/2.72	4	Octagon
11-471*	UL13	13/369	12½/318	5.2/2.36	4	Octagon
<b>Ripping claw</b>						
11-472*	UL22R	22/624	13½/343	7.6/3.45	4	Bell
11-473*	UL16R	16/454	13/330	6.0/2.72	4	Bell

\* Available in master carton of 24

## Economy



11-474



11-475

Same as premium except black head painted with durable baked enamel finish.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-474*	LL16	16/454	13/330	9.0/4.08	6	Bell
<b>Ripping claw</b>						
11-475*	LL16R	16/454	13/330	9.0/4.08	6	Bell

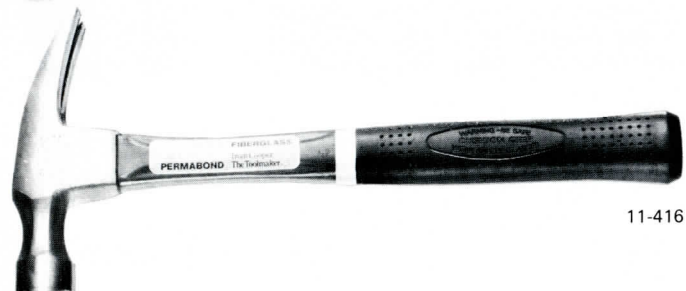
\* Available in master carton of 24

## Fiberglass Hammers

### Premium



11-400



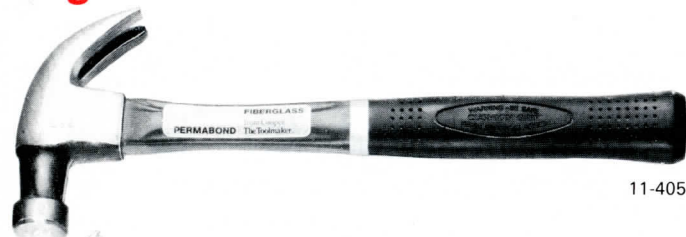
11-416

Full polished finish on head, pole and striking face. Octagon shaped neck and bell. 100% factory balanced. Sturdy fiberglass handle with black cushion grip, and PermaBond® handle attachment.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-400*	FA571	20/567	13½/343	8.0/3.63	4	Octagon
11-402*	FA57	16/454	13/330	6.8/3.08	4	Octagon
11-403*	FA572	13/369	12½/318	6.0/2.72	4	Octagon
<b>Ripping claw</b>						
11-414*	FA571R	22/624	13½/343	8.8/3.99	4	Bell
11-415*	FA57R	16/454	13/330	7.2/3.27	4	Bell
11-416*	FA571RL	22/624	15/377	9.2/4.17	4	Bell
11-417*	FAX571RL	22/624	15/377	9.2/4.17	4	Checkered

\* Available in master carton of 24

### Regular



11-405



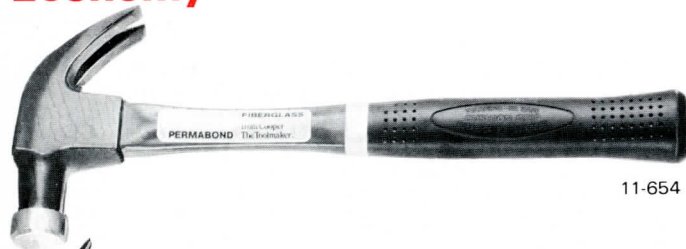
11-418

Polished head, bell and striking face. Round neck and bell. Black molded cushion grip on super strength fiberglass handles. PermaBond® handle attachment.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-405*	FA20	20/567	13½/343	7.6/3.45	4	Bell
11-406*	FA16	16/454	13/330	6.4/2.90	4	Bell
11-407*	FA13	13/369	12½/318	5.6/2.54	4	Bell
<b>Ripping claw</b>						
11-418*	FA20R	20/567	13½/343	7.6/3.45	4	Bell
11-419*	FA16R	16/454	13/330	7.2/3.27	4	Bell

\* Available in master carton of 24

### Economy



11-654



11-504

Black head painted with durable baked enamel finish. Polished bell and striking face. Hard biting claws and durable fiberglass handle with comfortable cushion grip. Patented PermaBond® handle attachment.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-654*	FG16	16/454	13/330	9.6/4.36	6	Polished Bell
<b>Ripping claw</b>						
11-504*	FG16R	16/454	13/330	9.6/4.36	6	Polished Bell

\* Available in master carton of 24



## Plumb® Hammers



## Ultralite™ Hammers

### Premium



11-469



11-473

Strong tubular steel handle in classic handle shape (not round). Polished head, bell and striking face. PermaBond® handle to head construction. Resilient grip for cushioned comfort. Heat treated nickel-chrome plated handle for long life. Engineered for balance.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-469*	UL20	20/567	13½/343	7.2/3.27	4	Octagon
11-470*	UL16	16/454	13/330	6.0/2.72	4	Octagon
11-471*	UL13	13/369	12½/318	5.2/2.36	4	Octagon
<b>Ripping claw</b>						
11-472*	UL22R	22/624	13½/343	7.6/3.45	4	Bell
11-473*	UL16R	16/454	13/330	6.0/2.72	4	Bell

\* Available in master carton of 24

## Economy



11-474



11-475

Same as premium except black head painted with durable baked enamel finish.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-474*	LL16	16/454	13/330	9.0/4.08	6	Bell
<b>Ripping claw</b>						
11-475*	LL16R	16/454	13/330	9.0/4.08	6	Bell

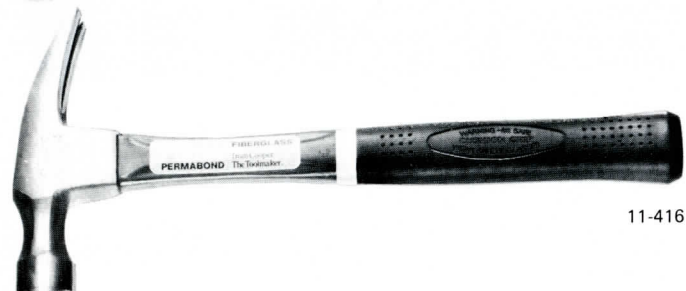
\* Available in master carton of 24

## Fiberglass Hammers

### Premium



11-400



11-416

Full polished finish on head, pole and striking face. Octagon shaped neck and bell. 100% factory balanced. Sturdy fiberglass handle with black cushion grip, and Permabond® handle attachment.

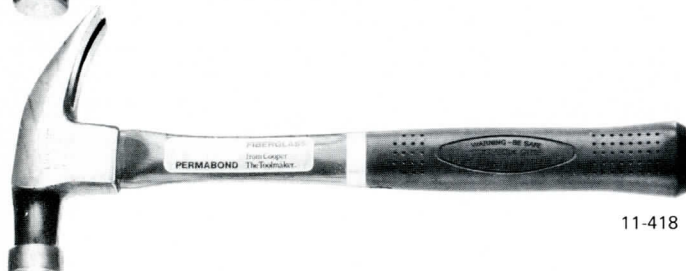
Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-400*	FA571	20/567	13½/343	8.0/3.63	4	Octagon
11-402*	FA57	16/454	13/330	6.8/3.08	4	Octagon
11-403*	FA572	13/369	12½/318	6.0/2.72	4	Octagon
<b>Ripping claw</b>						
11-414*	FA571R	22/624	13½/343	8.8/3.99	4	Bell
11-415*	FA57R	16/454	13/330	7.2/3.27	4	Bell
11-416*	FA571RL	22/624	15/377	9.2/4.17	4	Bell
11-417*	FAX571RL	22/624	15/377	9.2/4.17	4	Checkered

\* Available in master carton of 24

### Regular



11-405



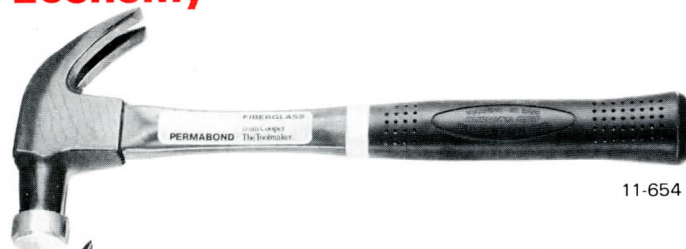
11-418

Polished head, bell and striking face. Round neck and bell. Black molded cushion grip on super strength fiberglass handles. Permabond® handle attachment.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-405*	FA20	20/567	13½/343	7.6/3.45	4	Bell
11-406*	FA16	16/454	13/330	6.4/2.90	4	Bell
11-407*	FA13	13/369	12½/318	5.6/2.54	4	Bell
<b>Ripping claw</b>						
11-418*	FA20R	20/567	13½/343	7.6/3.45	4	Bell
11-419*	FA16R	16/454	13/330	7.2/3.27	4	Bell

\* Available in master carton of 24

### Economy



11-654



11-504

Black head painted with durable baked enamel finish. Polished bell and striking face. Hard biting claws and durable fiberglass handle with comfortable cushion grip. Patented Permabond® handle attachment.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face
<b>Curved claw</b>						
11-654*	FG16	16/454	13/330	9.6/4.36	6	Polished Bell
<b>Ripping claw</b>						
11-504*	FG16R	16/454	13/330	9.6/4.36	6	Polished Bell

\* Available in master carton of 24



## Hickory handled hammers

### Autograf Hammers – Premium



Full polished head, pole and striking face. Octagon shaped pole. Quality red full Octagon hickory handle. Factory balanced. Permabond® construction forms a tight bond between head and handle.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face	Repair Handle No.
<b>Curved claw</b>							
11-435*	OAN11	20/567	13½/343	10.8/4.90	6	Octagon	11-688(A)
11-436*	OAN11½	16/454	13/330	9.0/4.08	6	Octagon	11-689(A)
11-437	OAN11½L	16/454	15½/394	9.6/4.35	6	Octagon	11-690(A)
11-438*	OAN12	13/369	12½/318	8.4/3.81	6	Octagon	11-691(A)
<b>Ripping claw</b>							
11-439	CR11	22/624	13½/343	10.8/4.90	6	Bell	11-688(A)
11-440*	CR11½	16/454	13/330	9.0/4.08	6	Bell	11-689(A)
11-441	CR11L	22/624	16/457	7.2/3.27	4	Bell	11-764(A)
11-893	CR28	28/794	17½/495	11.2/5.08	4	Bell	11-719(A)
11-442*	CR11XL	22/624	16/457	7.2/3.27	4	Checkered	11-764(A)
11-894	CR28X	28/794	17½/495	11.2/5.08	4	Checkered	11-719(A)

\* Available in master carton of 24

## Leader Hammers – Regular



Polished head, bell and striking face. Round pole. Red hickory handles. Factory balanced. Patented Permabond® process assures tight head to handle attachment.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face	Repair Handle No.
<b>Curved claw</b>							
11-453	L80	20/567	13½/343	10.8/4.90	6	Bell	11-693(A)
11-454*	L81	16/454	13/330	7.8/3.54	6	Bell	11-694(A)
11-455	L82	13/369	12½/318	7.8/3.54	6	Bell	—
<b>Ripping claw</b>							
11-458	L85	20/567	13½/343	10.8/4.90	6	Bell	11-693(A)
11-459	L86	16/454	13/330	9.0/4.08	6	Bell	11-694(A)
11-847	LX85	20/567	13½/343	10.8/4.90	6	Checkered	11-693(A)

\* Available in master carton of 24

## Homethrift Hammers – Economy



Black head painted with tough baked enamel finish. Polished bell and striking face. Hickory handle. Permabond® head to handle attachment.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face	Repair Handle No.
<b>Curved claw</b>							
11-460*	145	16/454	13/330	9.0/4.08	6	Polished Bell	11-694(A)
<b>Ripping claw</b>							
11-463	155	16/454	13/330	9.0/4.08	6	Polished Bell	11-694(A)

\* Available in master carton of 24

Repair handle code: (A) adze eye (O) oval eye (H) hatchet eye.

## Servall Hammers – Economy



11-464



11-466

Entire head of hammer painted black. Hickory handle. Permabond®.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Face	Repair Handle No.
<b>Curved claw</b>							
11-465*	SN13	7/198	11½/292	4.8/2.18	6	Bell	11-696
11-775	SN12	13/369	12½/318	7.8/3.54	6	Bell	—
11-464*	SN11½	16/454	13/330	9.0/4.08	6	Bell	11-694(A)
11-776	SN20	20-567	13½/343	9.0/4.08	6	Bell	11-693(A)
<b>Ripping claw</b>							
11-466*	SR11½	16/454	13/330	9.0/4.08	6	Bell	11-694(A)

\* Available in master carton of 24.

## Ball Pein Hammers Fiberglass



11-430

Rust resistant black forged head with polished peins and peins. Smooth cheeks. Professional fiberglass handle attached to head in tight bonding Permabond® process. Comfortable black cushion grip.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-426	FAM16	16/454	12½/324	6.4/2.90	4
11-427	FAM20	20/567	13/330	7.2/3.27	4
11-428	FAM24	24/681	15/377	10/4.54	4
11-429	FAM32	32/908	15/377	11.2/5.08	4
11-430	FAM40	40/1135	15/377	13.2/5.99	4

## Hickory handle



11-522

Black ground head. Polished peins and smooth ground cheeks. Select quality hickory handle. Strong Permabond® handle to head attachment.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-494	0369	4/113	10½/267	2.4/1.09	6	—
11-495	0370	6/170	10½/267	3.6/1.63	6	—
11-496*	0371	8/227	11½/286	4.8/2.18	6	11-696(A) or 11-721(O)
11-497*	0372	12/340	11½/286	6.0/2.72	6	11-696(A) or 11-721(O)
11-498*	0373	16/454	12½/324	7.8/3.54	6	11-694(A) or 11-722(O)
11-499	0374	20/567	12½/324	10.2/4.63	6	11-694(A) or 11-722(O)
11-520	0375	24/681	15/377	12.0/5.44	6	11-811(A) or 11-723(O)
11-521	0377	32/908	15/377	15.0/6.80	6	11-811(A) or 11-723(O)
11-522	0379	40/1135	15/377	18.0/8.16	6	11-811(A) or 11-723(O)

\* Available in master carton of 24

Repair handle code: (A) adze eye (O) oval eye (H) hatchet eye.



# Tradesmen's Hammers

## Fiberglass Brick Hammers



11-421

Forged head. Polished face, chamfer, bit and back. Fiberglass handle with comfortable cushion grip. Permabond®.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-421	FAB24	24/681	13/330	9.2/4.17	4	—
11-422	FAB15	15/425	12 1/4/311	6.0/2.72	4	—

## Hickory Handled Brick Hammers



11-491

Forged head. Durable black enamel finish. Sharp chisel and strong hickory handle. Permabond®.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-491*	2580	24/681	11/279	10.8/4.90	6	11-694(A)
11-492*	2581	15/425	11/279	8.4/3.81	6	—

\* Available in master carton of 24.

## Tinner's Hammer



Rust resistant black enamel-finish. Riveting pattern. Lightweight cross pein forged head. Quality hickory handle. Permabond®. Used in sheet metal fabrication.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-489	221	12/340	13/330	6.0/2.72	6	11-722(O)

## Scaling Hammer



Forged head with durable black enamel finish. Plumb® red hickory handle. Permabond®. Popular welder's tool. Also chips rust and paint.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-530	3095	16/454	13/330	7.8/3.54	6	11-694(A)

Repair handle code: (A) adze eye (O) oval eye (H) hatchet eye.

## Fiberglass Handled Prospecting Pick



Forged head. Polished face, chamfer and back. Long lasting red fiberglass handle with cushion grip for real comfort. Patented Permabond® handle attachment. Known as the "Rock Hound" hammer.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-423	FA470	16/454	12 $\frac{1}{2}$ /318	7.2/3.27	4	—

## Hickory Handled Prospecting Pick



Polished face and chamfer highlighted in black enamel finish. Precision forged head. Tough hickory handle. Permabond®. Used by prospectors and geologists.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-493	470	16/454	12 $\frac{1}{2}$ /318	7.8/3.54	6	—

## Heavy Hammers

### Double Faced Engineer's Hammers



11-528

Forged from high quality steel; hardened and tempered for serviceability. Two driving heads. Rust retardant black enamel finish. Polished face. Handles of red hickory. Permabond®.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-527	0272	40/1135	14/356	19.2/8.71	6	11-699(O) or 11-811(A)
11-528	0273	48/1362	14/356	21.6/9.80	6	11-699(O) or 11-811(A)
11-529	0274	64/1814	15 $\frac{3}{4}$ /396	28.2/12.79	6	—

## Blacksmith Hand Hammers



11-525

Quality steel forgings. Hardened and tempered. Proper weight distribution concentrated behind striking face for added power. Durable black enamel finish. Hickory handle. Permabond®.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-523	0281	32/908	14/356	14.4/6.53	6	11-699(O) or 11-811(A)
11-524	0282	40/1135	14/356	19.2/8.71	6	11-699(O) or 11-811(A)
11-525	0283	48/1362	14/356	19.0/8.98	6	11-699(O) or 11-811(A)

Repair handle code: (A) adze eye (O) oval eye (H) hatchet eye.



## Hand Drilling Hammer



Black forged head. Red hickory handle. PermaBond®. Known as stone cutters hammer. Recommended for striking cold chisels, brick chisels, punches and star drills.

Cat. No.	Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-649	E3H	48/1362	10 $\frac{3}{4}$ /273	19.2/8.71	6	—

## Bars

### Wrecking Bars



Forged high carbon steel. Rust resistant blue finish. Hardened and tempered claw and chisel. Five popular sizes from 12" to 36."

Cat. No.	Sales No.	Bar size "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-870	WB12	$\frac{1}{2}$ Hex/12.70	12/305	8.4/3.81	12
11-871	WB18	$\frac{3}{8}$ Hex/15.87	18/457	11.4/5.17	6
11-872	WB24	$\frac{1}{2}$ Hex/19.05	24/610	21.0/9.53	6
11-873	WB30	$\frac{3}{4}$ Hex/19.05	30/762	25.2/11.43	6
11-874	WB36	$\frac{1}{2}$ Hex/19.05	36/914	29.4/13.34	6

### Ripping Bar



Forged high carbon steel. Blue enamel finish to resist rust. Three beveled nail slots. 90° offset curved claw.

Cat. No.	Sales No.	Bar size "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-888	RB1	$\frac{1}{2}$ hex/17.46	17/432	8.0/3.63	4

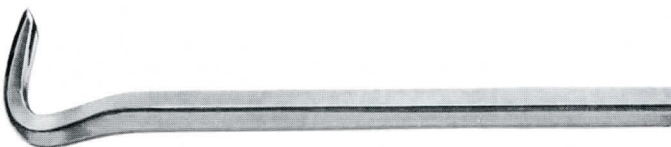
### Action Bar



Forged carbon steel. Beveled nail slots at both ends. Attractive blue finish. Used to pry, lift, pull, scrape and shape.

Cat. No.	Sales No.	Bar size "/mm x "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-889	PB1	1 $\frac{3}{8}$ /35 x $\frac{1}{4}$ /6	13 $\frac{1}{2}$ /343	6.0/2.72	4

### Nail Claw



Forged high carbon steel; hex stock. Beveled nail slot. Blue painted finish resists rust. Designed to extract deeply embedded nails.

Cat. No.	Sales No.	Bar size "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-887	NC1	$\frac{3}{8}$ hex/14.27	10/260	6.0/2.72	6

## Double faced Sledges



Black forged head. PermaBond® handle attachment takes two tons of pressure to pull loose. Red hickory handle. Rectangular eye on 4 lb. Oval eye on 6–20 lbs.

Cat. No.	Sales No.	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-658	H4HL	4/1814	30/762	30/13.60	6
11-659	H6H	6/2722	34/864	28/12.70	4
11-660	H8H	8/3629	34/864	36/16.33	4
11-661	H10H	10/4536	34/864	44/19.96	4
11-662	H12H	12/5443	34 1/8/870	52/23.58	4
11-663	H16H	16/7257	34 1/8/876	34/15.42	2
11-664	H20H	20/9072	35 1/8/902	42/19.05	2

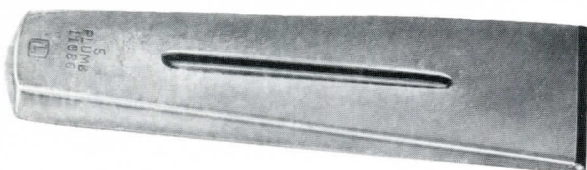
## Wood Chopper's Maul



Black forged head. Oval eye. Red hickory handle. PermaBond®.

Cat. No.	Sales No.	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-670	M6H	6/2722	33 3/4/858	28/12.70	4

## Wedges



11-686

Red forged square head pattern. Forged quality steel. Available in two sizes.

Cat. No.	Sales No.	Head wt. lb/g	Shelf Pack wt. lb/k	Shelf Pack
11-685	V4	4/1814	24/10.89	6
11-686	V5	5/2268	30/13.60	6

## Adze

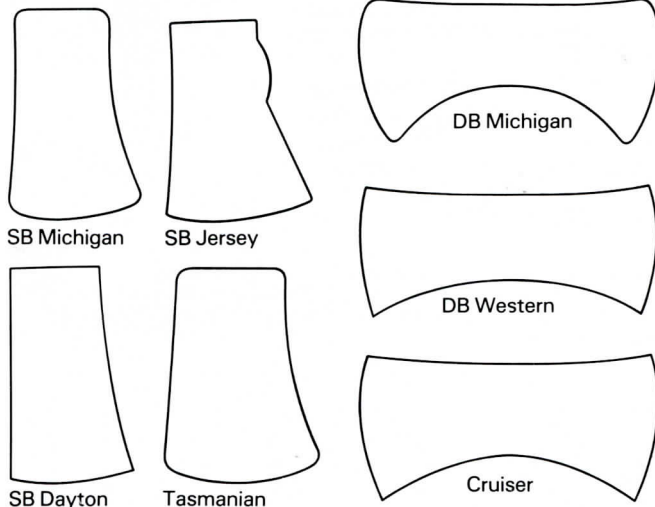


Forged from high quality steel. Hardened and tempered to have a sharp cutting edge and sturdy driving head. Rust resistant black finish. No. 11-784 handle must be ordered separately.

No.	Cat. Sales No.	Head wt. oz/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-564	740	64/1814	—	16/7.25	4
11-784	K740	23/652	33/838	3/1.36	2



## Plumb Axes



There's a wide variety of Plumb axes and hatchets to suit personal preferences and usage.

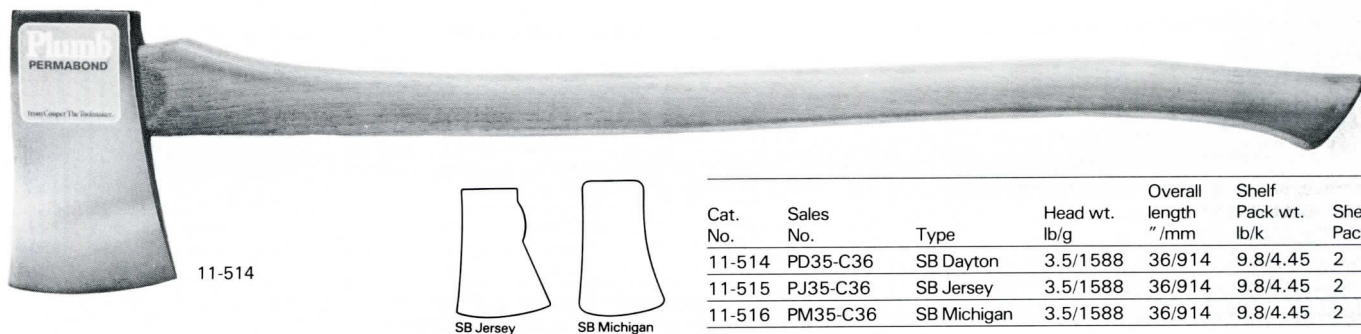
The big axe heads come in a choice of the six patterns illustrated.

The finish is either a fully polished head and bit, or a painted rust-resistant head with a polished bit. Needless to say, only the highest quality, hardened and tempered forged steel is used throughout.

## Premium Axes

Fully polished high quality forged steel heads. Hardened and tempered bits hold sharp edge longer. A fast cutting axe woodcutters have learned to appreciate. Select growth hickory handles. Permabond®.

### Curved Handle



Cat. No.	Sales No.	Type	Head wt. lb/g	Overall length "/>mm	Shelf Pack wt. lb/k	Shelf Pack
11-514	PD35-C36	SB Dayton	3.5/1588	36/914	9.8/4.45	2
11-515	PJ35-C36	SB Jersey	3.5/1588	36/914	9.8/4.45	2
11-516	PM35-C36	SB Michigan	3.5/1588	36/914	9.8/4.45	2

### Straight Handle

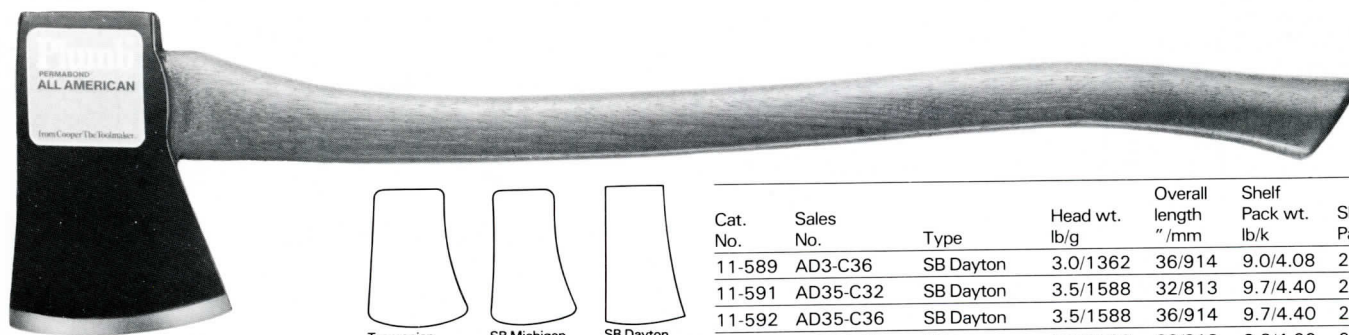


Cat. No.	Sales No.	Type	Head wt. lb/g	Overall length "/>mm	Shelf Pack wt. lb/k	Shelf Pack
11-517	PMD35-D36	DB Michigan	3.5/1588	36/914	11/4.99	2
11-518	PW35-D36	DB Western	3.5/1588	36/914	11/4.99	2

# All American – Dreadnaught

Polished bit. Forged steel heads. Rust resistant black enamel finish on head. Tempered and hardened bits retain their sharp cutting edge. Red hickory handles. Permabond®.

## Curved Handle

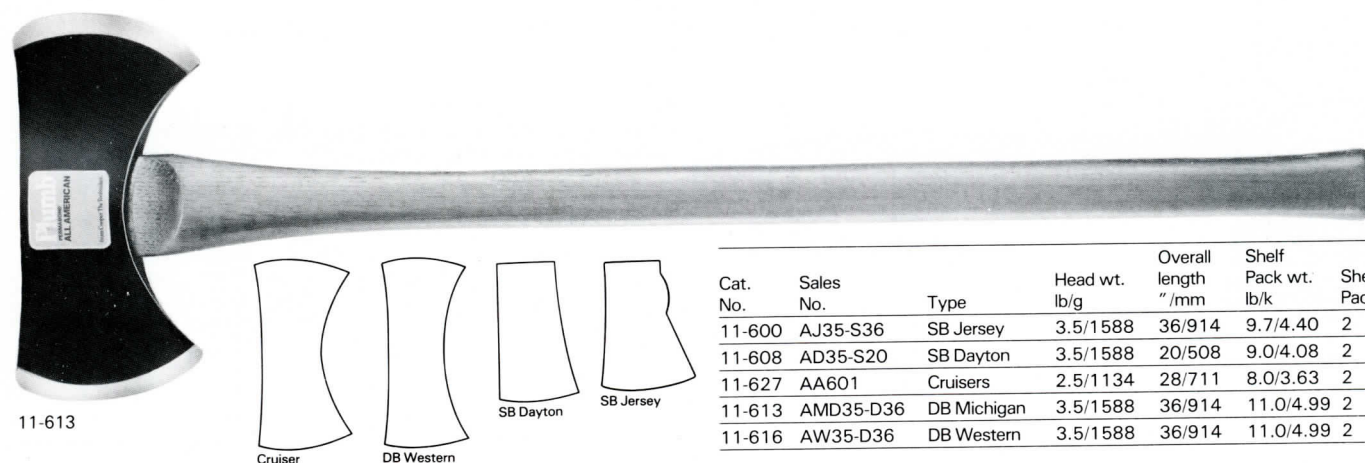


11-597

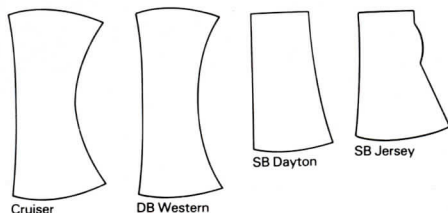


Cat. No.	Sales No.	Type	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-589	AD3-C36	SB Dayton	3.0/1362	36/914	9.0/4.08	2
11-591	AD35-C32	SB Dayton	3.5/1588	32/813	9.7/4.40	2
11-592	AD35-C36	SB Dayton	3.5/1588	36/914	9.7/4.40	2
11-597	AJ35-C32	SB Jersey	3.5/1588	32/813	9.3/4.22	2
11-599	AJ35-C36	SB Jersey	3.5/1588	36/914	9.6/4.36	2
11-607	AMS35-C36	SB Michigan	3.5/1588	36/914	9.7/4.40	2
11-797	ATR45-C36	Tasmanian	4.5/2043	36/914	13.5/6.12	2
11-798	ATR4-C32	Tasmanian	4.0/1816	32/813	10.5/4.76	6
11-799	ATR45-C32	Tasmanian	4.5/2043	32/813	13.0/5.90	6

## Straight Handle



11-613



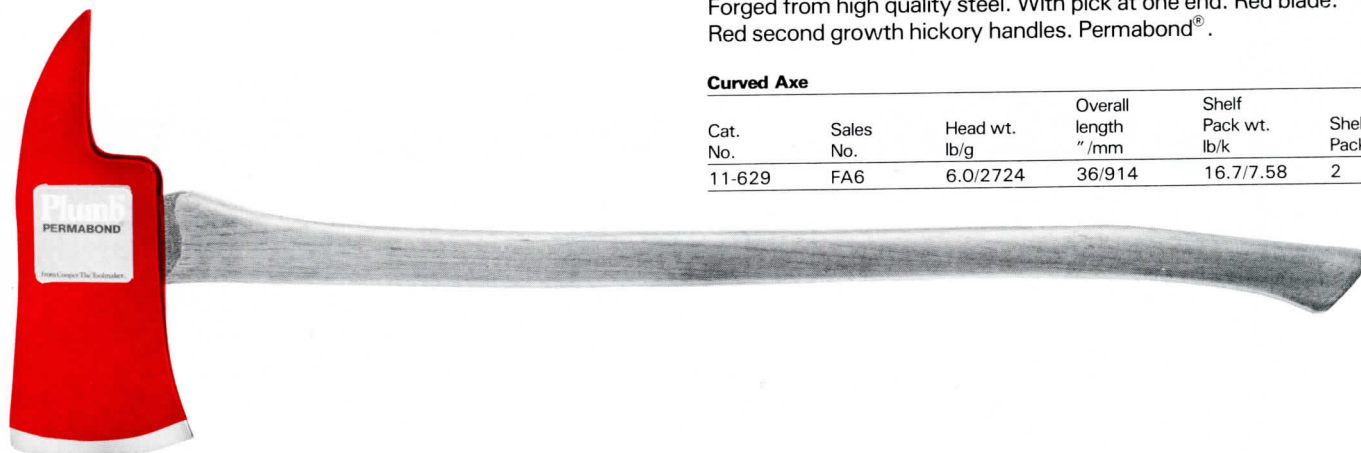
Cat. No.	Sales No.	Type	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-600	AJ35-S36	SB Jersey	3.5/1588	36/914	9.7/4.40	2
11-608	AD35-S20	SB Dayton	3.5/1588	20/508	9.0/4.08	2
11-627	AA601	Cruisers	2.5/1134	28/711	8.0/3.63	2
11-613	AMD35-D36	DB Michigan	3.5/1588	36/914	11.0/4.99	2
11-616	AW35-D36	DB Western	3.5/1588	36/914	11.0/4.99	2

## Fireman's Axe

Forged from high quality steel. With pick at one end. Red blade. Red second growth hickory handles. Permabond®.

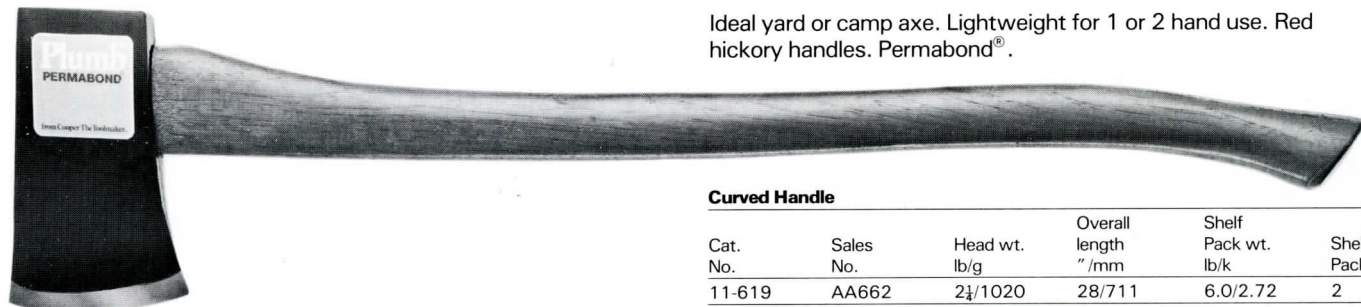
### Curved Axe

Cat. No.	Sales No.	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-629	FA6	6.0/2724	36/914	16.7/7.58	2





## Boy's Camp Axe



Ideal yard or camp axe. Lightweight for 1 or 2 hand use. Red hickory handles. Permabond®.

### Curved Handle

Cat. No.	Sales No.	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-619	AA662	2¼/1020	28/711	6.0/2.72	2

## House Axe



Black rust resistant forged head. Lightweight. Hickory handle. Permabond®.

### Curved Handle

Cat. No.	Sales No.	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-631	AA665	2¼/1020	19/483	16.2/7.35	6

## Hunter's Axe



Great axe for sportsmen or campers. Easy to handle lightweight design. Hickory handle. Permabond®.

### Curved Handle

Cat. No.	Sales No.	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-635	AA672	1¼/567	12/305	9.0/4.08	6

## Belt Axe



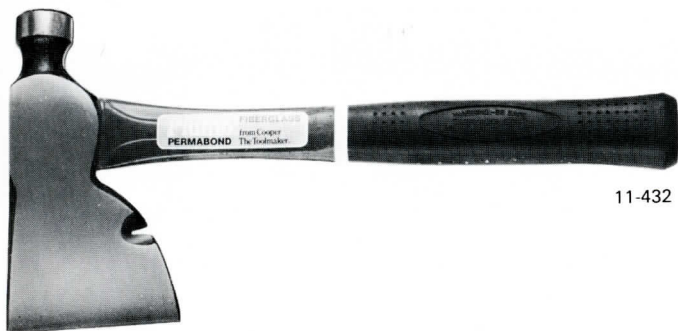
Sharp, fast cutting lightweight axe with belt sheath for sportsmen or campers. Black forged steel head. Red select hickory handle. Permabond®.

### Curved Handle

Cat. No.	Sales No.	Head wt. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack
11-634	682	1¼/567	12/305	10.8/4.90	6

# Hatchets

## Half Hatchets Fiberglass Handles



11-432

Hardened and tempered bit to hold sharp cutting edge. Strong fiberglass handle with black cushion grip. 11-432 (polished head) 11-433 (black painted head). Permabond®.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-432	FAPH2	3 $\frac{3}{8}$ /86	13 $\frac{1}{2}$ /337	7.2/3.27	4	11-729(H)
11-433	FAH2	3 $\frac{3}{8}$ /92	13 $\frac{1}{2}$ /343	10.0/4.54	4	11-729(H)

## Half Hatchets Hickory Handles



11-548

Same as fiberglass except for type of handle.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-541	AH2	3 $\frac{3}{8}$ /86	13 $\frac{1}{2}$ /343	7.6/3.45	4	11-729(H)
11-548	2961	3 $\frac{1}{2}$ /83	13 $\frac{1}{2}$ /337	8/3.63	4	11-729(H)
11-549	2962	3 $\frac{3}{8}$ /92	13 $\frac{1}{2}$ /343	8.4/3.81	4	11-729(H)
11-557	SH2	3 $\frac{3}{8}$ /92	13 $\frac{1}{2}$ /343	9.2/4.17	4	11-729(H)

## Broad Hatchet



Black finish. Heavy hatchet with broad single bevel cutting edge. Red Hickory handle. Permabond®.

Cat. No.	Sales No.	Bit size. lb/g	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-554	2992	4 $\frac{1}{2}$ /114	15 $\frac{1}{2}$ /394	10.0/4.54	4	—

## Expert California Lath Hatchet



Polished head with thin blade. Checkered face. Hickory handle. Permabond®.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-544*	3025	2 $\frac{1}{8}$ /54	12 $\frac{1}{2}$ /318	6.0/2.72	4	11-734(H)

\* Available in master carton of 24.

Repair handle code: (A) adze eye (O) oval eye (H) hatchet eye.



## Expert Wallboard Hatchet



Rust resistant black painted head with polished bevel and flat checkered face. Red hickory handle. Permabond®.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-543	3020	2¼/57	13/330	7.2/3.27	4	11-734(H)

## Professional Wallboard Hatchet



Forged steel head. Crowned target style face. Balanced. Hickory handle. Permabond®.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-895	PWB1	2¼/57	14¼/362	6.0/2.72	4	—

## Expert Box Hatchet



Polished head with thin cutting edge. Checkered face. Long Blade. Red hickory handles. Permabond®.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-546	BOX	2¼/57	16/402	8.0/3.63	4	11-734(H)

## Rigster Hatchet



Black painted head. Checkered face with sharp cutting edge. Hickory handle. Permabond®.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-559*	RB2	3½/89	18/457	10.0/4.54	4	11-732(H)

\* Available in master carton of 24.

## Car Builders Hatchet



Same as Rigster Hatchet only shorter handle.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-561	CBX2	3½/89	13½/343	9.2/4.17	4	11-729(H)

Repair handle code: (A) adze eye (O) oval eye (H) hatchet eye.

## Expert Shingling Hatchet



Rust retardant black head finish. Checkered face. Adjustable gauge. Draw Knife inner blade. Leather strap. Hickory handle. PermaBond®.

Cat. No.	Sales No.	Bit Size. "/mm	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Repair Handle No.
11-558*	565½	2½/54	13/330	8.0/3.63	4	11-734(H)
11-763	HJB	Gauge for 11-558		10.0/4.54	100	—

\* Available in master carton of 24.

## Rehandling Kits

Quality replacement handles complete with hardwood wedges, metal cross wedges and complete easy to follow instructions.



Cat. No.	Sales No.	Overall length "/mm	Shelf Pack wt. lb/k	Shelf Pack	Type Eye	Replacement for
11-688	KOAN11	13½/343	6/2.72	12	Adze	OAN11, CR11
11-689	KOAN11½	13/330	6/2.72	12	Adze	OAN11½, CR11½
11-690	KOAN11½L	15½/394	7.2/3.27	12	Adze	OAN11½L
11-764	KCR11L	16/406	6/2.72	12	Adze	CR11L, CR11XL
11-691	KOAN12	12½/318	6/2.72	12	Adze	OAN12
11-693	K80	13½/343	6/2.72	12	Adze	L80, L85, LX85, SN20
11-694	K81	13/330	6/2.72	12	Adze	SR11½, L81, L86, SN11½, 3095, 145, 155, 0373, 0374, 2580
11-719	KCR28	17½/444	7.5/3.40	12	Adze	CR28, CR28X
11-699	K281	11½/286	3.6/1.63	12	Adze	0273, 0281, 0282, 0283, 0272
11-696	K83	14/356	6/2.72	12	Oval	0371, 0372, SN13
11-721	K371	11½/286	3.6/1.63	12	Oval	0371, 0372
11-722	K373	13/330	3.6/1.63	12	Oval	221, 231, 253, 0373, 0374
11-730	KS10G	34½/876	9.6/4.35	12	Oval	H6H, H8H, H10H, H12H, H16H, & M6H
11-723	K375	15/381	7.2/3.27	12	Oval	0375, 0377, 0379
11-729	K2962	13½/343	6/2.72	12	Hatchet	2962, CBX2, SH2, AH2, 2961, 2981, FAH2, FAPH2
11-732	KRB2	18/457	7.2/3.27	12	Hatchet	RB2
11-734	K565	16/406	6/2.72	12	Hatchet	BOX, 565½, 3020, 3025, (13" Handle Length)
11-784	K740	33/838	3/1.36	2	Adze	740 Adze
11-811	K375AE	15/381	6/2.72	12	Adze	0375, 0377, 0379, 0273, 0281, 0282, 0283, 0272

## Safety Goggles



Industrial quality. Ultra light, impact resistant, washable and well ventilated. Complies with OSHA standards. Attractively carded.

Cat. No.	Sales No.	Type	Shelf Pack wt. lb/k	Shelf Pack
11-513	PSG	Ultra Light	2.0/0.91	6



## Plumb modules

For use with the Cooper Tool wall. For additional information regarding the Cooper module system see the last 2 pages of this catalog.

### **TW-60 (11-552-WD1) Fiberglass hammers module**



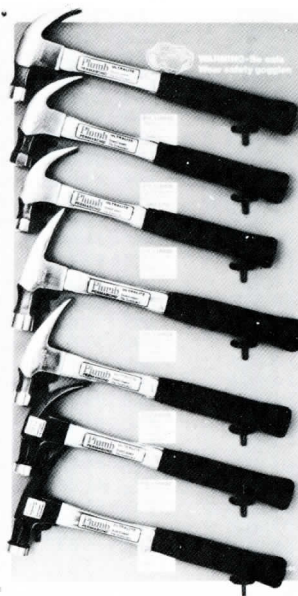
Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 32 lb/14.51 Kg.  
Contains: Two (2) each 11-400 (FA571), 11-402 (FA57), 11-403 (FA572), 11-415 (FA57R), 11-406 (FA16), 11-654 (FG16), TW-60A (11-551) refill assortment only.

### **TW-61 (11-562 – WD2) Hickory handled hammers module**



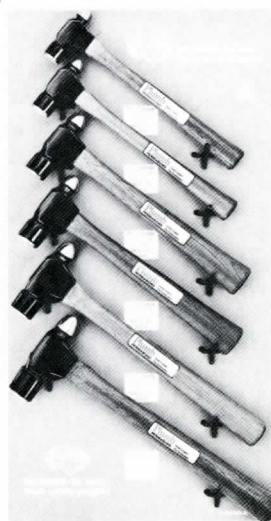
Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 28 lb/12.70 Kg.  
Contains: Two (2) each 11-435 (OAN-11), 11-436 (OAN-11½), 11-438 (OAN12), 11-454 (L81), 11-464 (SN11½), 11-440 (CR11½) TW-61A (11-560) refill assortment only.

### **TW-63 (11-532) Ultralite hammers module**



Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 35 lb/15.87 Kg.  
Contains: Two (2) each 11-469 (UL20), 11-470 (UL16), 11-471 (UL13), 11-472 (UL22R), 11-473 (UL16R), 11-474 (LL16), 11-475 (LL16R) TW-63A (11-533) refill assortment only.

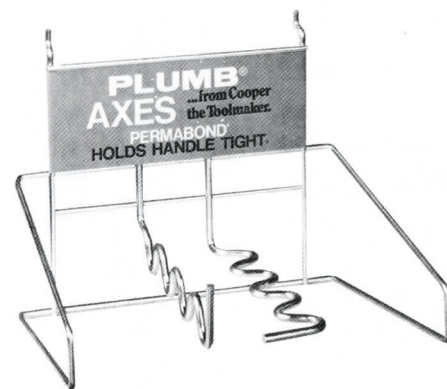
### **TW-62 (11-542 – WD3) Hickory handled Ball pein hammers**



Size: 16" /400mm x 29" /740mm (A)  
Shipping weight: 28 lb/12.70 Kg.  
Contains Two (2) each 11-496 (0371), 11-497 (0372), 11-498 (0373), 11-499 (0374), 11-520 (0375), 11-521 (0377), TW-62A (11-540) refill assortment only.

### **PAD (11-988) Axe display**

Space saver heavy duty wire unit to merchandise your Plumb axes in a minimum of wall space. Keeps tools neatly organized.



Shipping weight: 1 lb/.45 Kg.  
Holds 4 axes.

# Plumb® Numerical Index

P is an abbreviation for Plumb.

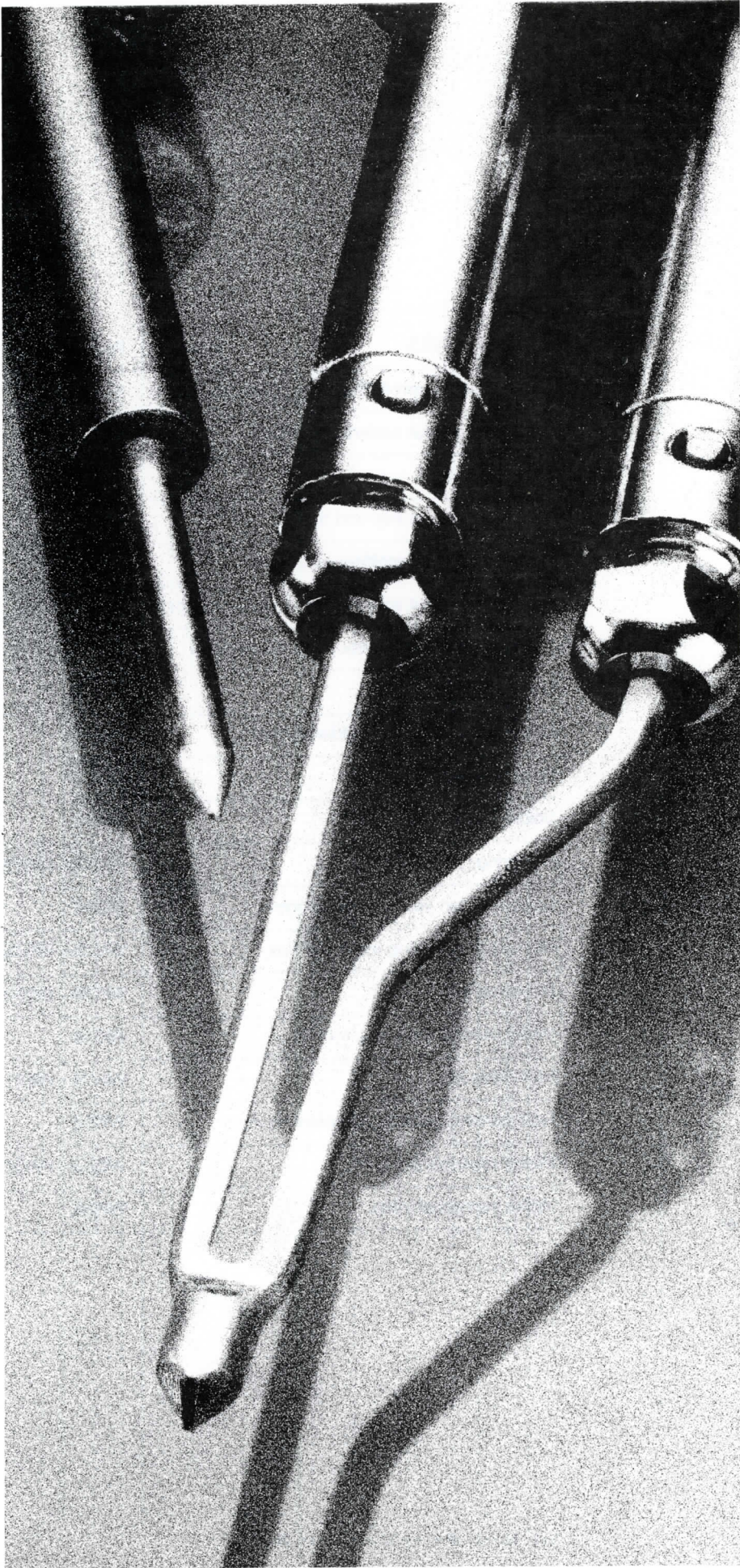
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11-400	FA571	P4	11-562	TW-61	P17
11-402	FA57	P4	11-564	740	P10
11-403	FA572	P4	11-589	AD3-C36	P12
11-405	FA20	P4	11-591	AD35-C32	P12
11-406	FA16	P4	11-592	AD35-C36	P12
11-407	FA13	P4	11-597	AJ35-C32	P12
11-414	FA571R	P4	11-599	AJ35-C36	P12
11-415	FA57R	P4	11-600	AJ35-S36	P12
11-416	FA571RL	P4	11-607	AMS35-C36	P12
11-417	FAX571RL	P4	11-608	AD35-S20	P12
11-418	FA20R	P4	11-613	AMD35-D36	P12
11-419	FA16R	P4	11-616	AW35-D36	P12
11-421	FAB24	P7	11-619	AA662	P13
11-422	FAB15	P7	11-627	AA601	P12
11-423	FA470	P8	11-629	FA-6	P12
11-426	FAM16	P6	11-631	AA665	P13
11-427	FAM20	P6	11-634	682	P13
11-428	FAM24	P6	11-635	AA672	P13
11-429	FAM32	P6	11-649	E3H	P9
11-430	FAM40	P6	11-654	FG16	P4
11-432	FAPH2	P14	11-658	H4HL	P10
11-433	FAH2	P14	11-659	H6H	P10
11-435	OAN11	P5	11-660	H8H	P10
11-436	OAN11½	P5	11-661	H10H	P10
11-437	OAN11½L	P5	11-662	H12H	P10
11-438	OAN12	P5	11-663	H16H	P10
11-439	CR11	P5	11-664	H20H	P10
11-440	CR11½	P5	11-670	M6H	P10
11-441	CR11L	P5	11-685	V4	P10
11-442	CR11XL	P5	11-686	V5	P10
11-453	L80	P5	11-688	KOAN11	P16
11-454	L81	P5	11-689	KOAN11½	P16
11-455	L82	P5	11-690	KOAN11½L	P16
11-458	L85	P5	11-691	KOAN12	P16
11-459	L86	P5	11-693	K80	P16
11-460	145	P5	11-694	K81	P16
11-463	155	P5	11-696	K83	P16
11-464	SN11½	P6	11-699	K281	P16
11-465	SN13	P6	11-719	KCR28	P16
11-466	SR11½	P6	11-721	K371	P16
11-469	UL20	P3	11-722	K373	P16
11-470	UL16	P3	11-723	K375	P16
11-471	UL13	P3	11-729	K2962	P16
11-472	UL22R	P3	11-730	KM6HS	P16
11-473	UL16R	P3	11-732	KRB2	P16
11-474	LL16	P3	11-734	K565	P16
11-475	LL16R	P3	11-763	HJB	P16
11-489	221	P7	11-764	KCR11L	P16
11-491	2580	P7	11-775	SN12	P6
11-492	2581	P7	11-776	SN20	P6
11-493	470	P8	11-784	K740	P10,P16
11-494	0369	P6	11-797	ATR45-C36	P12
11-495	0370	P6	11-798	ATR4-C32	P12
11-496	0371	P6	11-799	ATR45-C32	P12
11-497	0372	P6	11-811	K375AE	P16
11-498	0373	P6	11-847	LX85	P5
11-499	0374	P6	11-870	WB12	P9
11-504	FG16R	P4	11-871	WB18	P9
11-513	PSG	P16	11-872	WB24	P9
11-514	PD35-C36	P11	11-873	WB30	P9
11-515	PJ35-C36	P11	11-874	WB36	P9
11-516	PM35-C36	P11	11-887	NC 1	P9
11-517	PMD35-D36	P11	11-888	RB 1	P9
11-518	PW35-D36	P11	11-889	PB 1	P9
11-520	0375	P6	11-893	CR28	P5
11-521	0377	P6	11-894	CR28X	P5
11-522	0379	P6	11-895	PWB 1	P15
11-523	0281	P8	11-998	PAD	P17
11-524	0282	P8			
11-525	0283	P8			
11-527	0272	P8			
11-528	0273	P8			
11-529	0274	P8			
11-530	3095	P7			
11-532	TW-63	P17			
11-541	AH2	P14			
11-543	3020	P15			
11-544	3025	P14			
11-546	BOX	P15			
11-548	2961	P14			
11-549	2962	P14			
11-552	TW-60	P17			
11-554	2992	P17			
11-557	SH2	P14			
11-558	565½	P16			
11-559	RB2	P15			
11-561	CBX2	P15			











<sup>®</sup>  
**Weller**

**CooperTools™**



# Weller

Founded in 1945, Weller has become the world's leading supplier of professional quality soldering equipment, including the famous Weller temperature controlled irons and soldering guns. Weller also makes advanced soldering and desoldering stations and irons for sophisticated industrial needs, plus a series of handy soldering and miniature power tool kits for home craftsmen, hobbyists and light industry.

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**Note:**

N/S No. is an abbreviation of NIDA/SIDA Number.



# Temperature controlled soldering stations

## EC1000 and EC2000 Electronic controlled soldering stations – variable

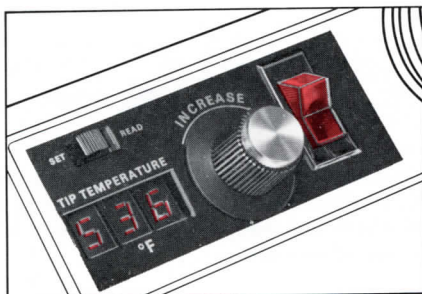
Technologically the most advanced soldering stations on the market, the EC1000 and EC2000 are both capable of handling all the delicate soldering operations necessary in even the most sophisticated applications.

Both units offer the ultimate in controlled temperature hand soldering. Tip temperature is electronically controlled throughout the temperature range of 350°F(177°C) to 850°F(454°C). The units are calibrated to within 10°F(6°C). Tip temperature control is maintained within specification over line voltage variations of 10% and ambient temperature range of 60°F(15.6°C) to 110°F(43°C).

The EC1000 station is dial controlled and is calibrated in 10°F(5°C) steps.

The EC2000 has a three-digit LED readout displaying temperature settings and tip temperatures with a resolution and setability of 1°F(1°C). Instantaneous tip temperature readings are available by setting the selector switch to "read" position. The electronic system utilizes thyristor power control with zero voltage thyristor drive. This insures that no high voltage spikes or magnetic fields will be present on the soldering tip. In addition, the power unit is isolated from the A.C. line by a transformer and only 24 VAC isolated voltage is used to drive the heating element. The tool tip is also grounded through the power unit three wire cord. These features combine with the calibrated temperature control to give the greatest safety for sensitive expensive electronic circuit, hand soldering.

Both units feature extra large sponge, iron holder, tip holding tray, solder drip shield and lighted on/off switch.



EC2000

Model	N/S No.	V	W	HZ	Description	Pack wt. oz/kg
EC1000	47729	110/120	60	60	Complete station °F	62/1.76
EC1000D		220/240	60	50/60	Complete station °C	63/1.78
EC2000	47730	110/120	60	60	Complete station °F (LED display)	63/1.78
EC2000D	47819	220/240	60	50/60	Complete station °C (LED display)	63/1.78

Both EC1000 and EC2000 meet government specification requirements for contract work.

### EC1000 and EC2000 replacement parts and accessories

Part No.	N/S No.	Description	Shelf Pack
EC1002A	47685	Power unit only for EC1000 (110/120V)	1
EC2002A	47686	Power unit only for EC2000 (110/120V)	1
EC1201A	47684	Soldering iron with ETA tip	1
EC205	47732	Sponge (Pack of 10)	1
EC208	47731	Heater assembly	1
EC210	47717	Display board – calibrated	1
EC211	47718	Power transformer	1
EC212	47719	Circuit breaker	1
EC213	47798	Plug/Recept. kit	1
EC219	47813	Switch	1
EC220	47814	Switch – 240V	1
BA60	47396	Nut assembly	1

## ET series tips for EC1000 and EC2000

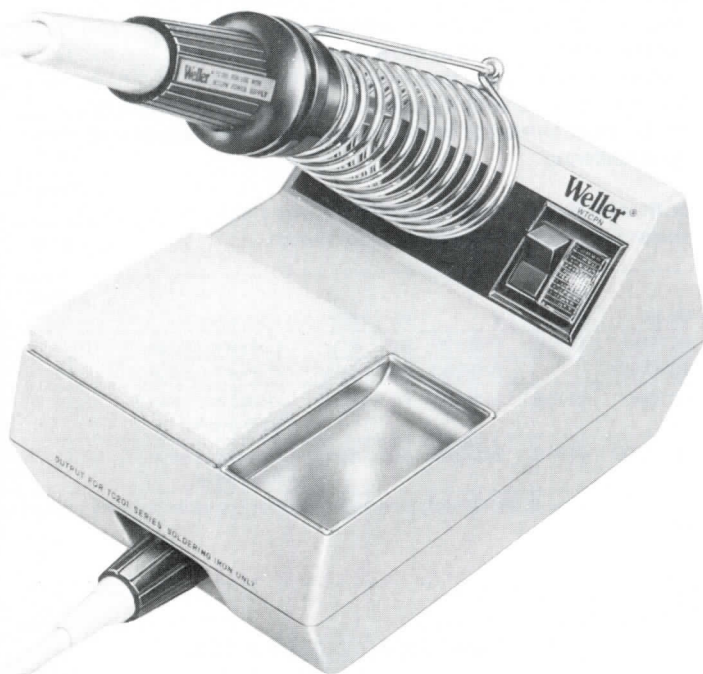


Cat. No.	N/S No.	Description	Shelf Pack
ETA*	47728	$\frac{1}{8}$ " / 1.58mm tip screwdriver	10
ETB*	47727	$\frac{3}{32}$ " / 2.38mm tip screwdriver	10
ETC*	47726	$\frac{1}{8}$ " / 3.17mm tip screwdriver	10
ETD*	47725	$\frac{3}{8}$ " / 4.76mm tip screwdriver	10
ETH*	47723	$\frac{1}{2}$ " / 0.79mm tip screwdriver	10
ETK*	47721	$\frac{3}{4}$ " / 1.19mm tip long screwdriver	10
ETL*	47720	$\frac{5}{8}$ " / 1.98mm tip long screwdriver	10
ETM	47810	$\frac{1}{2}$ " / 0.8mm tip long screwdriver	10
ETO*	47722	$\frac{1}{2}$ " / 0.79mm tip long conical	10
ETP*	47724	$\frac{1}{2}$ " / 0.79mm tip conical	10
ETR	47811	$\frac{1}{8}$ " / 1.5mm tip narrow screwdriver	10
ETS*	47805	$\frac{1}{4}$ " / 0.38mm tip conical	10
ETCC	47808	$\frac{1}{8}$ " / 3mm tip single flat	10
ETDD	47809	$\frac{1}{8}$ " / 4.7mm tip single flat	10

All ET-series tips are individually carded and packed 10 to a box.

\*Available bulk packed (100 multiples only). Minimum order quantity is 200 lots. A greater discount is offered on orders of 600 lots and above. To order in bulk, please add suffix "B" to Cat. No. Example, ETA-B.

## Controlled – Output soldering stations WTCPN



Exclusive Weller closed loop, low-voltage circuit automatically controls output and temperature in three ranges: 600°F(315°C), 700°F(371°C) and 800°F(427°C). Temperature selected simply by changing the grounded, heat-sensing tip with knurled thumbscrew. Safe for IC soldering. Comfortable lightweight pencil iron has heat shield, non-burnable silicone rubber cord, and locking designs for easy interchangeability. Power unit, with contemporary impact-resistant case, has unitized on/off toggle switch and neon indicator light, non-heat sinking iron holder, storage tray for extra tips, and tip cleaning sponge with receptacle. 3-wire 4.5 ft. (1.4m) long cord. Furnished with  $\frac{1}{8}$ " (1.58mm) screwdriver tip 700°F(371°C) PTA7. UL-listed. Carton weight 21 lb/9.53 kg. 6 in a carton.

Cat. No.	N/S No.	V	W	Hz	Description
WTCPN	47208	120	60	60	Complete station
WTCPN-D	47882	220/240	60	50/60	Complete station for export

### Zero voltage soldering station

The WTCPPZ has a controlled output power unit identical to WTCPN model but offers the TC2012 pencil which has a special zero voltage electronic switching circuit that prevents possible damage due to voltage transients.

Cat. No.	N/S No.	V	W	Hz	Description
WTCPPZ	47689	120	60	60	Complete station

### Replacement parts and accessories for WTCPN & WTCPPZ

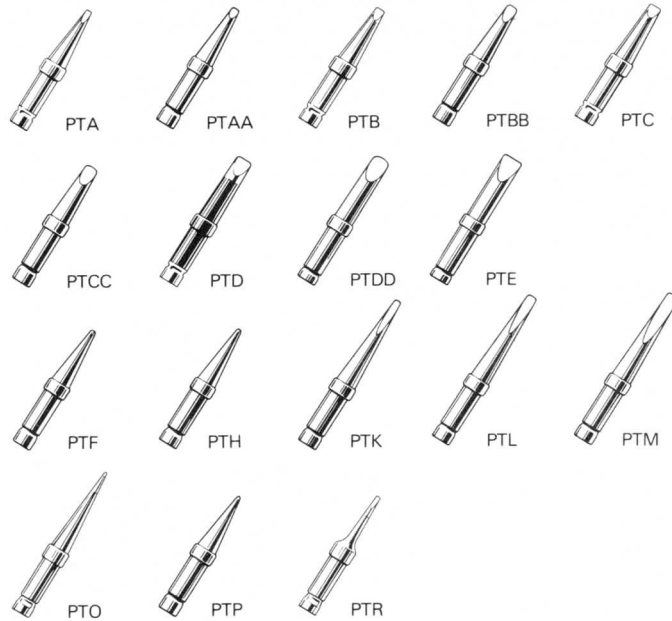
Cat. No.	N/S No.	Description	Shelf Pack
TC201	47505	Soldering Pencil w/PTA7 Tip	1
TC202	47509	Power unit only, 120V, includes sponge, iron holder	1
TC203	47512	Cord set w/handle	1
TC204	47516	Iron Holder w/funnel	1
TC205	47517	Sponge	10
TC206	47519	Tip Tray	1
TC257	47639	5 tip package: PTA7, PTC7, PTD7, PT07, PT-L7	1 pkg
TC207	47521	Switch/Light for Power Unit	1
TC208	47522	Heater Element for Soldering Pencil	1
TC210	47815	Power transformer – WTCPP	1
TC369A	47797	Plug repair kit	1
SW60	47407	Switch Assembly for Soldering Pencil	1

Cat. No.	N/S No.	Description	Shelf Pack
BA60	47396	Barrel Nut Assembly for Soldering Pencil	1
EC219	47813	Power switch	1
EC220	47814	Power switch – 220/240V	1
<b>Replacement parts and accessories for WTCPPZ</b>			
TC201Z	47690	Soldering pencil with PTA7 tip	1
DSTCP	47200	De-soldering adaptor	1
TC203Z	47712	Cord set	1
TC208Z	47688	Cord set	1
TC209	47687	PTD Circuit	1



## PT series tips for model WTCPN

Weller industrial soldering tips have heavy iron plating, with anti-wetting chrome coating. Genuine Weller tips for WTCPN are all marked with the "Weller" name and style. Stamped on the base is the numeral 6, 7, or 8, indicating the control temperatures 600°F(315°C), 700°F(371°C) or 800°F(427°C).

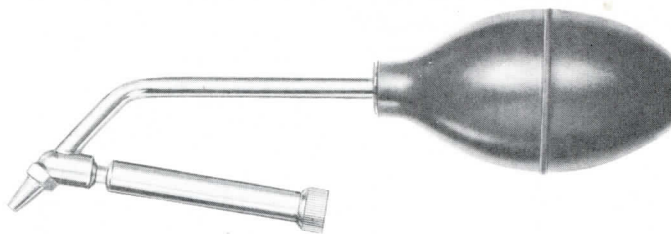


Catalog Numbers (N/S No.)			Tip Size	Description	Reach
600°F (315°C)	700°F (371°C)	800°F (427°C)			
PTA6 (47301)	PTA7* (47322)	PTA8* (47341)	$\frac{1}{16}$ " / 1.5mm	Screwdriver	$\frac{5}{8}$ " / 16mm
PTAA6 (47302)	PTAA7* (47323)	PTAA8* (47342)	$\frac{1}{16}$ " / 1.5mm	Single Flat	$\frac{5}{8}$ " / 16mm
PTB6 (47303)	PTB7* (47324)	PTB8* (47343)	$\frac{3}{32}$ " / 2.4mm	Screwdriver	$\frac{5}{8}$ " / 16mm
PTBB6 (47304)	PTBB7 (47325)	PTBB8 (47344)	$\frac{3}{32}$ " / 2.4mm	Single Flat	$\frac{5}{8}$ " / 16mm
PTC6 (47305)	PTC7* (47326)	PTC8* (47345)	$\frac{1}{8}$ " / 3mm	Screwdriver	$\frac{5}{8}$ " / 16mm
PTCC6 (47306)	PTCC7 (47327)	PTCC8 (47346)	$\frac{1}{8}$ " / 3mm	Single Flat	$\frac{5}{8}$ " / 16mm
PTD6 (47307)	PTD7* (47328)	PTD8* (47347)	$\frac{3}{16}$ " / 4.7mm	Screwdriver	$\frac{3}{4}$ " / 19mm
PTDD6 (47308)	PTDD7 (47329)	PTDD8 (47348)	$\frac{3}{16}$ " / 4.7mm	Single Flat	$\frac{3}{4}$ " / 19mm
PTE6 (47309)	PTE7* (47330)	PTE8* (47349)	$\frac{1}{8}$ " / 6mm	Screwdriver	$\frac{3}{4}$ " / 19mm
PTF6 (47310)	PTF7* (47331)	PTF8* (47350)	$\frac{1}{32}$ " / 0.8mm	Conical Flat	$\frac{5}{8}$ " / 16mm
PTH6 (47311)	PTH7* (47332)	PTH8* (47351)	$\frac{1}{32}$ " / 0.8mm	Screwdriver	$\frac{5}{8}$ " / 16mm
PTK6 (47312)	PTK7* (47333)	PTK8* (47352)	$\frac{3}{8}$ " / 2mm	Long Screwdriver	1" / 25mm
PTL6 (47313)	PTL7* (47334)	PTL8* (47353)	$\frac{5}{16}$ " / 0.8mm	Long Screwdriver	1" / 25mm
PTM6 (47314)	PTM7* (47335)	PTM8* (47354)	$\frac{1}{32}$ " / 0.8mm	Long Screwdriver	1" / 25mm
PTO6 (47315)	PTO7* (47336)	PTO8* (47356)	$\frac{1}{32}$ " / 0.8mm	Long Conical	1" / 25mm
PTP6 (47316)	PTP7* (47337)	PTP8* (47355)	$\frac{1}{32}$ " / 0.8mm	Conical	$\frac{5}{8}$ " / 16mm
PTR6 (47317)	PTR7* (47338)	PTR8* (47358)	$\frac{1}{16}$ " / 1.5mm	Narrow Screwdriver	$\frac{5}{8}$ " / 16mm
PTS6 (47802)	PTS7* (47803)	PTS8* (47804)	$\frac{1}{8}$ " / 0.40mm	Conical Tip	$\frac{5}{8}$ " / 16mm

All PT-series tips are individually carded and packed 10 to a box.

\*Available bulk packed (100 multiples only). Minimum order quantity is 200 lots. A greater discount is offered on orders of 600 lots and above. To order in bulk, please add suffix "B" to Cat. No. Example, PTA7-B.

## DSTCP (47200) Desoldering adaptor



Versatile attachment for Models WTCPN permits operator to de-solder and resolder with the same tool. Available desoldering tiptlets listed under Model DS40 DeSoldering/Repair Tool.

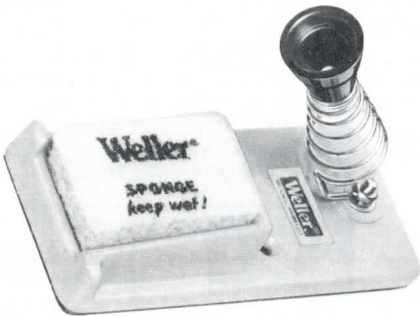
# WM120 pencil thin soldering iron



The Weller WM120 – 12 Watt miniature packs quality features standard from Weller into a lightweight pencil thin soldering iron with a break-resistant stay-cool handle. Designed for soldering miniature heat and voltage sensitive components, where precision touch is essential, the WM120 weighs 7 oz/198 g and measures 7" /178mm less tip. It develops a tip temperature of 800°F(427°C) and accommodates the Weller MP series of automatic slide-in tips. UL-listed.

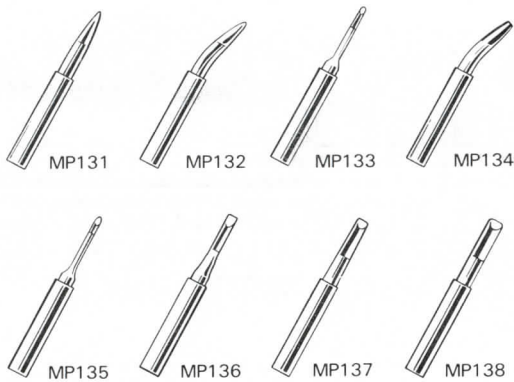
Cat. No.	N/S No.	W	V	Hz	With Tip	Pack wt. lb/kg	Shelf Pack
WM120	47711	12	120	50/60	MP131	3/1.36	6

## Soldering tool stand for WM120



Cat. No.	N/S No.	Description	Shelf Pack
PHM120	47789	Complete with base, sponge and receptacle	6

## MP series tips for WM120

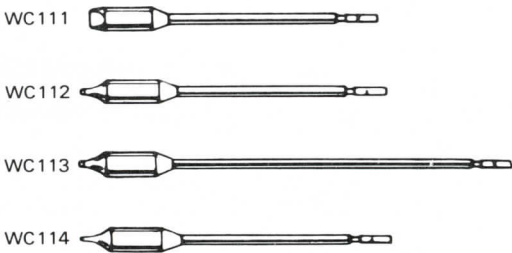


Top quality, iron plated tips with anti-oxidation coating.

Cat. No.	N/S No.	Tip Size	Description	Shelf Pack
MP131	47454	$\frac{1}{8}$ " /0.40mm	Conical	1
MP132	47457	$\frac{1}{32}$ " /0.80mm	Bent Conical	1
MP133	47458	$\frac{1}{32}$ " /0.80mm	Single flat 45°	1
MP134	47459	$\frac{3}{8}$ " /1.19mm	Bent conical	1
MP135	47460	$\frac{3}{8}$ " /1.19mm	Single flat 45°	1
MP136	47461	$\frac{1}{8}$ " /1.59mm	Narrow screwdriver	1
MP137	47462	$\frac{5}{8}$ " /2mm	Screwdriver	1
MP138	47463	$\frac{1}{8}$ " /3mm	Chisel	1

All MP series tips are individually carded and packed 10 to a box.

## WC series tips for WC100



Cat. No.	N/S No.	Tip Size	Description	Shelf Pack
WC111	47440	$\frac{1}{8}$ " /3mm	Diameter Tip	6
WC112	47442	$\frac{1}{8}$ " /1.59mm	Diameter Tip	6
WC113	47443	$\frac{1}{8}$ " /1.59mm	Long Reach	6
WC114	47446	$\frac{1}{32}$ " /0.80mm	Conical	6



## DS600 Portable Desoldering Station

**New!**



The DS600 Portable Power Desoldering Station is a self-contained system which requires a 120 volt 60 Hz A.C. power source for operation. The station has been designed for use in industrial and service applications where portability or a lack of a suitable air source requires a self-contained unit.

A unique feature of this new station is that the desoldering operation is controlled with a push button to control the vacuum pulse. The push button is built into the handle of the desoldering iron in such a manner as to allow either left or right handed operation. The desoldering head design is provided with positive sealing to prevent vacuum loss. The desoldering head supplied with the unit is temperature controlled to 700°F(371 °C) by the reliable Weller "Magnastat" closed loop temperature control system. The desoldering iron heating element and push button control circuit are electrically isolated from the 120 VAC power supply through a 120/24 volt step-down transformer. A 24 volt signal from the push button activates a photo-isolator circuit which turns the 120 volt compressor motor on and off. This circuit was designed to prevent voltage spikes from the motor or push button reaching the desoldering iron tip. The desoldering iron tip is also grounded to prevent damage to voltage sensitive components. Other features: ● Carry handle. ● Power cord storage. ● Built-in iron holder. ● Improved quick disconnect for desoldering iron. ● Low maintenance vacuum system.

Cat. No.	N/S No.	Description	V	W	Hz	Pack wt. lb/kg	Shelf Pack
DS600	47820	Complete station	120	50	50/60	—	1
<b>Accessories for DS600</b>							
DS601	47868	De-soldering iron with 700°F(370°C) head					1
DS103	47432	Collector tube with gasket and filter					5
DS104	47433	Clean-out tool					1
DS106	47435	Sponges					10
DS602	47869	Power unit only					1

## DS500 Temperature controlled desoldering station



Stainless Steel lined de-soldering tiptlets draw molten solder into see-through collecting tube that is easily cleaned or replaced. Vacuum is created by conversion of air pressure through a special transducer. The station is designed to use air from an exterior air system. A foot switch turns the vacuum off and on. Vacuum level is adjusted by an air pressure regulator. Cabinet-mounted gauge shows vacuum level. Easy maintenance is a primary feature of the DS500.

Other temperature controlled system features include:

● 8 De-soldering tiptlets available. ● Stainless steel liners brazed to tiptlets for better heat transfer and longer life. ● Lighted on-off power switch. ● Quick-connect locking plug to prevent accidental loss of power. ● Collector tube filter to prevent solder from entering and clogging vacuum tube ● Vacuum adjustable from 5–20" Hg. ● Operates easily using factory air. ● Available in 700°F(370°C) and 800°F(427 °C). ● 3-wire power cord. UL-listed. DS114 desoldering tiptlet fitted as standard.

Cat. No.	N/S No.	Description	V	W	Hz	Pack wt. lb/kg	Shelf Pack
DS500	47670	Complete station	120	50	50/60	—	1
<b>Accessories for DS500</b>							
DS102	47431	Desoldering iron with 700°F(370°C) head					5
DS103	47432	Collector tube with gasket and filter					5
DS104	47433	Clean out tool					1
DS105	47434	Sponge holder w/spring and clean out tool					1
DS106	47435	Sponges only					10
DS107	47436	Tool holder					1
DS501	47671	Power unit					1
DS502	47672	Foot switch					1
DS503	47673	Tool holder					1
DS504	47674	Transducer					1



# DS100 Controlled-output de-soldering and re-soldering station



The Weller power vacuum De-Soldering and Re-Soldering Station is specifically designed for printed circuit board repair on re-work lines.

Famous Weller closed-loop temperature control circuit and grounded tips protect sensitive components while soldering or de-soldering. Choice of 600°F(315°C), 700°F(370°C) or 800°F(427°C), controlled soldering temperatures by changing special heat-sensing tips. De-soldering temperature controlled at 700°F(370°C) or 800°F(427°C) through interchangeable heads. See-thru solder collector is easy to clean or replace. Burn resistant silicone rubber cords and low-voltage tool inputs give longer life and added safety. High impact-resistant tool handles and stainless steel barrels mean longer tool usage. Operates from factory air (30-130 p.s.i.) and line voltage. Complete with foot switch indicating light/on-off switch, dual safety tool holder, vacuum adjustment gauge, 5 assorted tiptlets (DS110-DS114) for desoldering iron.  $\frac{1}{8}$ " / 1.59mm screwdriver solder tip for 700°F(370°C) operation (PTA7), holder for tip-cleansing sponge and spare tiptlets, and instructions, 3-wire power cord. UL-listed.

Cat. No.	N/S No.	Description	V	W	Hz	Pack wt. lb/kg	Shelf Pack
DS100	47416	Complete station	120	110	50/60		1

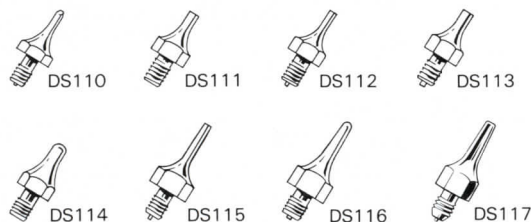
## Accessories for DS100

DS101	47429	Soldering iron with PT7A tip					1
DS101Z	47691	Zero voltage iron					1
DS102	47431	De-soldering iron with 700°F(370°C) head					5
DS102Z	47692	Zero voltage iron					1
DS103	47432	Collector tube with gasket and filter					5
DS104	47433	Clean-out tool					1
DS105	47434	Sponge holder w/spring and clean out tool					1
DS106	47435	Sponges only					10
DS107	47436	Tool holder					1

## DS202 (47511) installation kit

Includes: 10ft  $\frac{1}{4}$ " / 3056mm O.D. poly tubing and one each  $\frac{1}{4}$ " / 6mm x  $\frac{1}{8}$ " / 3mm tubing fitting,  $\frac{1}{8}$ " / 6mm x  $\frac{1}{4}$ " / 6mm tubing fitting,  $\frac{3}{8}$ " / 9.5mm x  $\frac{1}{4}$ " / 6mm bushing,  $\frac{1}{2}$ " / 13mm x  $\frac{1}{4}$ " / 6mm bushing, couples and nipple.

## Replacement tiptlets for DS100, DS500 and DS600



Cat. No.	N/S No.	O.D.	I.D.	Length	Shelf Pack
DS110	47438	.060" / 1.58mm	.025" / 0.70mm	$\frac{1}{2}$ " / 13mm	5
DS111	47439	.090" / 2.37mm	.025" / 0.70mm	$\frac{1}{2}$ " / 13mm	5
DS112*	47441	.076" / 1.98mm	.036" / 0.82mm	$\frac{1}{2}$ " / 13mm	5
DS113*	47444	.098" / 2.45mm	.046" / 1.19mm	$\frac{1}{2}$ " / 13mm	5
DS114*	47445	.125" / 3.17mm	.071" / 1.80mm	$\frac{1}{2}$ " / 13mm	5
DS115	47447	.060" / 1.58mm	.025" / 0.70mm	$\frac{3}{4}$ " / 19mm	5
DS116	47449	.098" / 2.45mm	.045" / 1.17mm	$\frac{3}{4}$ " / 19mm	5
DS117	47451	.090" / 2.37mm	.025" / 0.70mm	$\frac{3}{4}$ " / 19mm	5

For replacement soldering tips for DS100, see PT series tips.

\*Available bulk packed (100 multiples only). Minimum order quantity is 200 lots. A greater discount is offered to orders of 600 lots and above. To order in bulk, please add suffix "B" to Cat. No. Example, DS112B.

## Replacement parts and accessories for DS100, DS500 and DS600

Cat. No.	N/S No.	Description	For Station	Shelf Pack (box)
DS118	47437	Retainer springs	DS100	5
DS201	47474	Fuses	DS100/DS500/DS600	5
DS202	47511	Instal. Kit: tubing, fittings, bushings, etc.	DS101	1
DS203	47513	Fuses 32A Type N	DS100	5/card
DS204	47515	Filter	DS100/DS500	10
DS205	47653	In line filter	DS100/DS500	10
DS206	47697	Gaskets	DS100/DS500	10
DS217	47526	Desoldering head 700°F(370°C) w/spring	DS100/DS500	1
DS218	47527	Desoldering head 800°F(427°C) w/spring	DS100/DS500	1
DS220	47528	Vacuum hose, 18 feet	DS100	1
DS225	47529	Transducer assembly	DS100	1
SW60	47407	Switch assembly	DS500	1
HE60	47395	Heating element	DS500	1



# Controlled-output soldering irons

High quality portable tools for production work with all the benefits of controlled output and temperature. Temperature selection 600°F(315°C), 700°F(370°C) or 800°F(427°C) by merely changing tips. Light blue color. Use with Weller PH or SF series soldering tool stands to effect a complete soldering station. 6 ft/1.82m Cord.

## W60 series irons



Fitted with CT5A7 screwdriver tip.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
W60	47408	60	120	50/60	4/1.81	6
W60-3*	47409	60	120	50/60	4/1.81	6

\*-3 denotes available with 3-wire cord.

## W100 series irons



Fitted with CT5F7 screwdriver tip.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
W100	47426	100	120	50/60	4 1/2/2.15	6
W100-3*	47427	100	120	50/60	4 1/2/2.15	6

\*-3 denotes available with 3-wire cord.

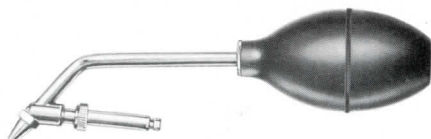
## CT series tips for W60 and W100 soldering irons



Catalog Numbers			For Model	Tip Size	Descr.	Reach
600°F (315°C)	700°F (370°C)	800°F (427°C)				
CT5A6 (47261)	CT5A7 (47262)	CT5A8 (47263)	W60	1/16" / 1.58mm	Scrd.	1" / 25mm
CT5B6 (47264)	CT5B7 (47265)	CT5B8 (47266)	W60	3/32" / 2.4mm	Scrd.	1" / 25mm
CT5C6 (47267)	CT5C7 (47268)	CT5C8 (47269)	W60	1/8" / 3mm	Scrd.	1" / 25mm
CT5D6 (47271)	CT5D7 (47272)	CT5D8 (47273)	W60	3/16" / 4.8mm	Scrd.	1" / 25mm
CT5E6 (47274)	CT5E7 (47275)	CT5E8 (47276)	W60	1/4" / 6mm	Scrd.	1" / 25mm
CT6C6 (47284)	CT6C7 (47285)	CT6C8 (47286)	W100	1/8" / 3mm	Scrd.	1" / 25mm
CT6D6 (47287)	CT6D7 (47288)	CT6D8 (47289)	W100	3/16" / 4.8mm	Scrd.	1" / 25mm
CT6E6 (47290)	CT6E7* (47291)	CT6E8 (47292)	W100	1/4" / 6mm	Scrd.	1" / 25mm
CT6F6 (47293)	CT6F7* (47294)	CT6F8 (47295)	W100	3/8" / 10mm	Scrd.	1" / 25mm

All CT-series tips are individually carded and packed 10 to a box.  
 \*Available bulk packed (100 multiples only). Minimum order quantity is 200 lots.  
 A greater discount is offered on orders of 600 lots and above. To order in bulk, please add suffix "B" to Cat. No. Example, CT6E7-B.

## DS-60 (47397) Desoldering adaptor



For use with model W60 iron. For desoldering tiptets available see page 10 listed under Model DS40 desoldering/repair tool.

## Soldering tool stands for W series irons

NOTE: The temperature of the W series irons is automatically controlled; therefore the use of improper metallic stands will affect the life of both tool and tip. The following Weller stands are recommended for use with W60 and W100 series irons because they employ the non-heat-sinking tool holder of the spring funnel type, designed so that the tip and barrel cannot have heat inadvertently drawn off by contact with the spring.

### Model PH60



Soldering tool stand with base, sponge and receptacle. For W60, WP25, WP40 and irons with barrel diameters up to  $\frac{1}{2}$ " / 11.90mm.

Cat. No.	N/S No.	For irons	Pack wt. lb/kg	Shelf Pack
PH60	47401	W60, WP25, WP40	11½/5.22	6

### Model PH100



Same as PH60, but for W100 and irons with barrel diameters up to  $\frac{1}{2}$ " / 15.08mm.

Cat. No.	N/S No.	For irons	Pack wt. lb/kg	Shelf Pack
PH100	47420	PH60	11½/5.22	6

### Model SFA60



Side rail stand, for attachment to wall or bench. For model W60 and irons with barrel diameters up to  $\frac{1}{2}$ " / 11.90mm.

Cat. No.	N/S No.	For irons	Pack wt. lb/kg	Shelf Pack
SFA60	47404	W60	2½/1.25	6

### Model SFA100



Same as SFA60, but for W100 and irons with barrel diameters up to  $\frac{1}{2}$ " / 15.08mm.

Cat. No.	N/S No.	For irons	Pack wt. lb/kg	Shelf Pack
SFA100	47421	W100	—	6

## Replacement parts for soldering tool stands

Cat. No.	N/S No.	Description	Shelf Pack
SF60	47403	Funnel	5
SFW60	47405	Spring funnel only for PH60 stand	5
SFW100	47422	Spring funnel only for PH100 stand	5
SP60	47406	Sponge only for PH60 and PH100	1



## Professional soldering irons

Top quality, industrial grade tools develop 750°F(399°C) temperature. Rugged stainless steel barrel construction. Long life double coated tips. High efficiency. Popular pencil styling. Light blue handle with black heat shield. Only 7 $\frac{7}{8}$ "/200mm long. 1 $\frac{3}{4}$ oz/49g 6 blister-packed or boxed per 6 $\frac{1}{2}$ "/165mm x 11"/1279mm x 6"/152mm master carton 4 Ft./1.22m Cord. UL-listed.

### WP25 series irons



Fitted with ST1 screwdriver tip.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
WP25	47373	25	120	50/60	2 $\frac{1}{2}$ /1.13	6
WP25-3*	47372	25	120	50/60	2 $\frac{1}{2}$ /1.13	6

**The following iron is available for Export**

WP25D	47883	25	220/240	50/60	2 $\frac{1}{2}$ /1.13	6
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\*denotes available with 3-wire cord.

### WP40 series irons

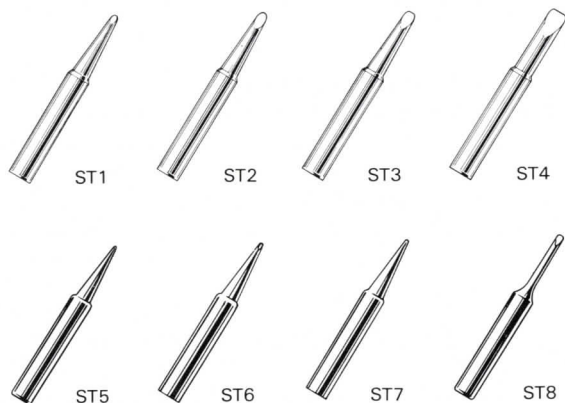


Fitted with ST3 screwdriver tip.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
WP40	47390	40	120	50/60	2 $\frac{3}{4}$ /1.25	6
WP40-3*	47391	40	120	50/60	2 $\frac{3}{4}$ /1.25	6

\*denotes available with 3-wire cord.

## Replacement tips for WP25 and WP40 irons



Top quality, iron plated tips with anti-wetting chrome coating. All tips are pre-tinned.

Cat. No.	N/S No.	Tip Size	Description	Shelf Pack
ST1	47221	$\frac{1}{16}$ "/1.6mm	Screwdriver	10
ST2	47243	$\frac{3}{32}$ "/2.4mm	Screwdriver	10
ST3	47251	$\frac{1}{8}$ "/3mm	Screwdriver	10
ST4	47260	$\frac{3}{16}$ "/4.8mm	Screwdriver	10
ST5	47280	$\frac{1}{32}$ "/0.8mm	Single Flat	10
ST6	47318	$\frac{1}{32}$ "/0.8mm	Screwdriver	10
ST7	47339	$\frac{1}{32}$ "/0.8mm	Conical	10
ST8	47357	$\frac{1}{16}$ "/1.6mm	Narrow Screwdriver	10

All ST-series tips are individually carded packed 10 to a box. Also available bulk packed (100 multiples only).

## Soldering tool stands for WP25 and WP40 Model PH25



Versatile bench stand for WP25 and WP40 irons, can be either free standing or mounted. Sturdy aluminum construction. Prevents accidental burns on bench or work surface.

Cat. No.	N/S No.	For irons	Pack wt. lb/kg	Shelf Pack
PH25	47371	WP25 and WP40	3/1.36	6

## Model PH60



Soldering tool stand with base, sponge and receptacle. For W60, WP25, WP40 and irons with barrel diameters up to  $\frac{1}{2}$ " / 11.90mm.

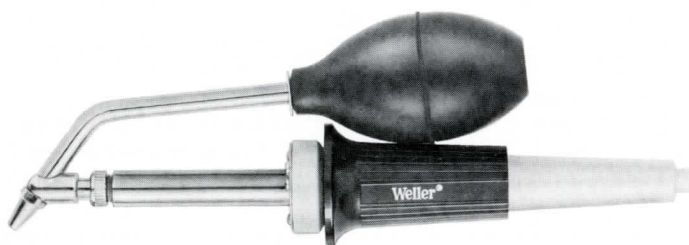
Cat. No.	N/S No.	For irons	Pack wt. lb/kg	Shelf Pack
PH60	47401	WP25, WP40, W60	11 $\frac{1}{2}$ /5.22	6

## Model SFA1

Iron holder less base, for attachment to wall or bench. For WP25 and WP40 and irons with barrel diameters up to  $\frac{3}{8}$ " / 10mm.

Cat. No.	N/S No.	Description	Pack wt. lb/kg	Shelf Pack
SFA1	47220	Iron holder less base	2 $\frac{1}{2}$ /1.13	6

## Desoldering/repair tool



A valuable repair tool for servicing printed circuit boards and solid state electronics, allowing components to be removed and replaced quickly with less chance of heat damage. Complete unit includes 40W, 120V tool with 2-wire or 3-wire cord and heat shield, vacuum bulb, de-soldering assembly, and nickel-plated triplet with .063" / 1.58mm opening. UL-listed.

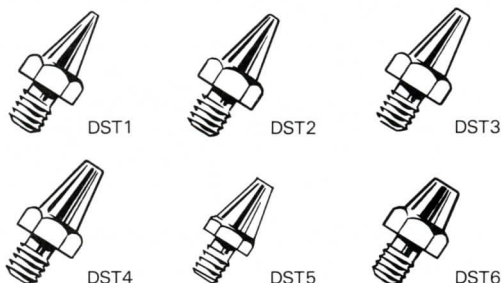
Cat. No.	N/S No.	W	V	Hz	Triplet	Pack wt. lb/kg	Shelf Pack
DS40	47377	40	120	50/60	DST4	3 $\frac{1}{4}$ /1.71	6
DS40-3	47378	40	120	50/60	DST4	4 $\frac{1}{4}$ /1.93	6

-3 denotes 3-wire cord.

### Replacement parts

DSF40	47379	Replacement frame 2-wire	6
DSF40-3	47380	Replacement frame 3-wire	6
DSH40	47381	Head Assembly with DSF-tip	1

## Replacement tipllets for DS40, DS60 and DSTCP



Cat. No.	N/S No.	O.D.	I.D.	Reach
DST1	47209	.078" / 1.98mm	.038" / 1mm	.500" / 12.7mm
DST2	47236	.095" / 2.4mm	.046" / 1.19mm	.500" / 12.7mm
DST3	47246	.125" / 3.17mm	.059" / 1.4mm	.500" / 12.7mm
DST4	47257	.135" / 3.3mm	.063" / 1.65mm	.500" / 12.7mm
DST5	47227	.155" / 3.80mm	.078" / 1.98mm	.500" / 12.7mm
DST6	47296	.170" / 4.3mm	.090" / 2.37mm	.375" / 9.52mm

1 tip per card, 10 tips per box. Also available bulk packed (100 multiples only). May be used also with DS100, but with possibility of reduced tip life.

## Controlled-output field soldering irons

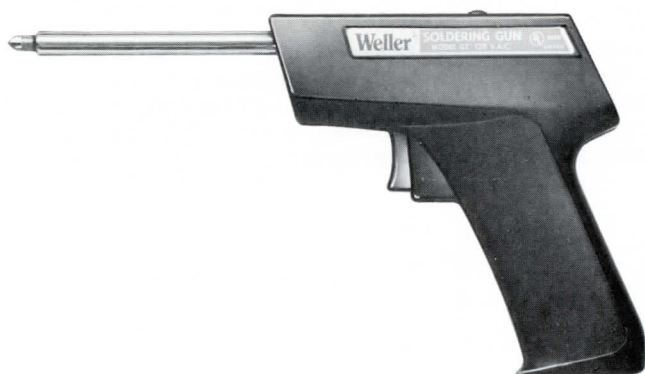


Versatile controlled tool for field servicing. Operates from suitable batteries or low voltage power source. Complete with battery clips and 12 ft. cord. Tip temperature is 700°F (370°C). Screwdriver blade tip is  $\frac{3}{16}$ " / 4.76mm wide. UL-listed.

Cat. No.	N/S No.	V	lb/kg	Shelf Pack
TCP12	47651	12 to 14	—	3
TCP24	47652	24 to 28	—	3

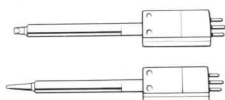


## Solid state soldering gun



Temperature controlled with fast 6-second heat-up interchangeable power heads give choice of 600°F(315°C) or 700°F(370°C) capability. Designed for modern solid state electronic work and will not damage sensitive components. Lightweight 7 oz/198g. Slim, long-reach barrel has double-coated tip tested for 30,000 connections. UL-listed. Carded packed 6 per master carton measuring 8¼" / 210mm x 7⅝" / 187mm x 12⅝" / 321mm.

Cat. No.	N/S No.	W	V	Hz	Description	Pack wt. lb/kg	Shelf Pack
GT7A	47320	150	120	60	Complete gun with 700°F(370°C) power head ⅜" / 4.8mm chisel tip	5¼/2.38	6
GT6B	47297	150	120	60	Complete gun with 600°F(315°C) power head ⅝" / 3mm cone point tip	5¼/2.38	6
GT7A-3	47321	150	120	60	Same as GT7A except furnished with 3-wire cord	5¼/2.38	6
GT6B-3	47299	150	120	60	Same as GT6B except furnished with 3-wire cord	5¼/2.38	6

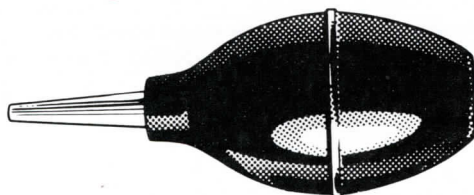


### Replacement parts for solid state gun

Cat. No.	N/S No.	Description	For series	Pack wt. lb/kg	Shelf Pack
7A	47319	700°F(370°C) power head with ⅜" / 4.8mm chisel tip	GT7A/GT6B	1/0.45	6
6B	47283	600°F(315°C) power head with ⅝" / 3mm cone point tip	GT7A/GT6B	1/0.45	6
GT	47201	Handle only with trigger and cord	GT7A/GT6B	—	1
GT3	47247	Handle only with trigger and cord	GT7A/GT6B	—	1

## Accessories

### De-soldering bulb



Ideal for electronic kit building or electrical work, the bulb may be used with any Weller soldering iron. Tip is made of a highly heat-resistant material which will not scratch delicate PC boards. Carded.

Cat. No.	N/S No.	Pack wt. lb/kg	Shelf Pack
AC303P	47539	—	12

## RC60 Rosin-core solder



13 ft./3.96m of .040" diameter, 60/40 premium-alloy, activated rosin-core solder especially formulated for electronics work. Dispenser tube with hang-up eye.

Cat. No.	N/S No.	Pack wt. lb/kg	Shelf Pack
RC60	47402	1½/3.3	24

## RC40 Rosin-core solder



5 ft./1.52m of .062" diameter, 40/60 alloy solder, excellent for electrical/electronics use. Carded.

Cat. No.	N/S No.	Pack wt. lb/kg	Shelf Pack
RC40	47385	1/2.2	12

## AC40 Acid-core solder

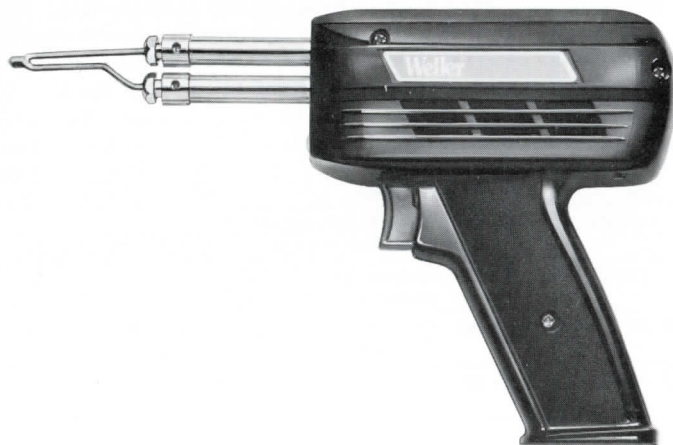


5 ft./1.52m of .063" diameter, 40/60 alloy, acid-core solder principally for sheet metal work. Carded.

Cat. No.	N/S No.	Pack wt. lb/kg	Shelf Pack
AC40	47376	1/2.2	12

## Soldering Guns and Kits

### Universal (140/100 watts)



All purpose gun. Fingertip, trigger selection of high or low output from this instant-heat gun that's ready to solder in 6 seconds. High efficiency tip of pre-tinned pure copper. Light illuminates work. Compact, balanced pistol-grip design. Soldering hints booklet included. 2-wire cord. UL-listed. Carded.

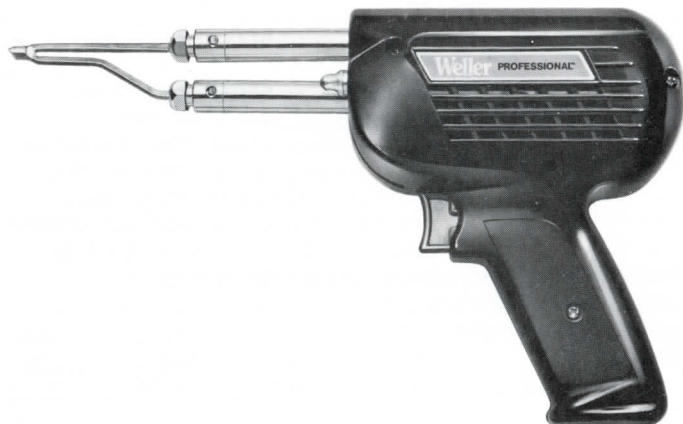
Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
8200	47584	100/140	120	50/60	17½/7.94	6
8200-3*	47585	100/140	120	50/60	17½/7.94	6
8200W	47580	100/140	120	50/60	17½/7.94	6

**The following gun is available for export**

8200D	47597	100/140	220/240	50/60	17½/7.94	6
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\*-3 denotes available with 3-wire cord.

### Professional (260/200 watts)



Heavy duty gun. Highest output gun with 2-position trigger selection of dual heats. Heavy gauge, high efficiency, pre-tinned copper tip comes up to temperature in 6 seconds. Balanced pistol-grip design with twin lights to illuminate work. Complete with soldering hints booklet. 2-wire cord. UL-listed. Boxed.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
D550	47541	260/200	120	50/60	10/4.54	6
D550-3*	47543	260/200	120	50/60	10/4.54	6

**The following gun is available for export (single heat)**

8250D	47599	275	220/240	50/60	10/4.54	3
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\*-3 indicates available with 3-wire cord.

### Soldering gun kits

### Universal 8200PK Kit



8-piece kit includes Weller model 8200 dual heat soldering gun with pre-tinned copper tip, 2 extra un-tinned copper tips, tip-changing wrench, flux brush, soldering aid tool, coil of 40/60 rosin-core solder, and sturdy plastic carrying case, plus soldering hints booklet. UL-listed.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
8200PK	47586	100/140	120	50/60	22/9.98	6

**The following gun kit is available for export**

8200DPK	47600	100/140	220/240	50/60	22/9.98	3
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## Professional D550PK Kit



8 piece heavy-duty soldering kit featuring the versatile Weller Model D550 soldering gun with pre-tinned heavy copper tip. Kit also includes 2 spare un-tinned tips, tip changing wrench, flux brush, soldering aid tool, coil of 40/60 rosin-core solder and sturdy plastic carrying case plus soldering hints booklet. UL-listed.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
D550PK	47542	260/200	120	50/60	13/5.90	6

**The following gun kit is available for export**

8250DPK	47600	275	220/240	50/60	13/5.90	3
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## Instant heat soldering gun



Ideal gun that works on home and hobby projects of all kinds applying a "warm" touch to jobs that are hard, sometimes impossible to do without the application of heat. The Instant Heat Gun can be used to cut vinyl tile or vinyl wall and floor covering sheets, to cut plastic cords, to seal and smooth plastics, to cut through thermoplastic materials, as well as the traditional soldering gun uses on metal or electrical connections. Weight 2 lbs. 5 oz. Packed 6 per master carton weighing 18½ lb/8.4 kg.

Cat. No.	N/S No.	V	Hz	Pack wt. lb/kg	Shelf Pack
9200K	47738	120	50/60	18½/8.40	6

## Standard Lightweight

**New!**



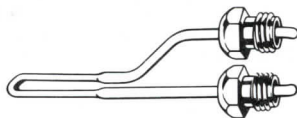
Economy model, small, lightweight for fast soldering jobs. Fingertip trigger for instant heat. The gun has been designed so it can be placed on its back when not in use. Available with soldering tip (7235) only. 2 wire cord. UL-listed. Boxed.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
7200	47879	75	120	50/60	—	6
7200D	47886	75	220/240	50/60	—	6
7200PK	47780	75	120	50/60	—	6
7200DPK	47785	75	240	50/60	—	6

## Replacement tips for 8200, D550, 9200K & 7200 Guns



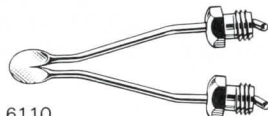
8125



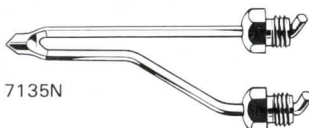
8125N



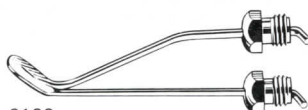
7135



6110



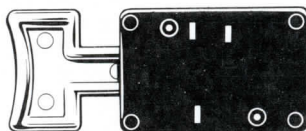
7135N



6120

Cat. No.	N/S No.	Description	Series No.
8125	47582	Premium iron and tin plated soldering tip – 2 per card	8200
8125N	47583	Premium iron and tin plated soldering tip with tip nuts – 1 per card.	8200
7135	47565	Copper soldering tip – 2 per card	8200/9200K
7135N	47566	Copper soldering tip with tip nuts – 1 per card	8200/9200K
7250	47571	Copper soldering tip – 2 per card	D550
7250N	47572	Copper soldering tip with tip nuts – 2 per card	D550
6110	47556	Cutting tip, nickel plated copper with tip nuts – 1 per card	8200/9200K
6120	47557	Smoothing tip, nickel plated copper with tip nuts – 1 per card	8200/9200K
6130	47558	Cutting tip, nickel plated copper with tip nuts – 1 per card	D550
6140	47559	Smoothing tip, nickel plated copper with tip nuts – 1 per card	D550
7235	47881	Soldering tip	7200

## Soldering gun accessories and parts



Cat. No.	N/S No.	Description	Shelf Pack
<b>Soldering aid</b>			
4204	47554		1
<b>Flux brush</b>			
4206	47555		1
<b>Light bulbs/brackets</b>			
7194	47567	Bulb-wedge type N guns	1
7195	47568	Light bracket – single wedge	1
7204	47570	Light bracket – oval screw	1
<b>Switches</b>			
7323	47574	For single heat models	1
7324	47575	For dual heat models	1
<b>Tip nuts</b>			
7325	47576	For models D440, 8100, 8200	1
7417	47580	For model D550	1
<b>Cords</b>			
7409	47578	2 wire – all models	1
7412	47579	$\frac{3}{4}$ " case screw	1
<b>Housings</b>			
8100-RH	47581	Right and left housings for 8100 series	1
8200-RH	47587	Right and left housings for 8200 series	1
D440-RH	47540	Right and left housings for D440 series	1
D550-RH	47544	Right and left housings for D550 series	1
<b>Plastic cases</b>			
PUC20	47366	Plastic utility case with insert for model 8200	1
PUC50	47394	Plastic utility case with insert for model D550	1



## Marksman soldering irons

These fine quality soldering irons feature stainless steel barrels, replaceable nickel-plated copper tips and heat/impact resistant handles. All UL-listed.

### SP23 Iron (25 watt)



8 $\frac{1}{4}$ " / 210mm long. Featherweight soldering iron with replaceable tip and pencil handle, designed for hobbies, kits, radios.  $\frac{1}{8}$ " / 3mm tip develops 750°F(399°C). Weighs 1 $\frac{3}{4}$  oz / 42 g. Packed 12 cards per master carton, weighing 5 $\frac{1}{8}$  lb/2.5 kg.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP23	47368	25	120	50/60	5 $\frac{1}{8}$ /2.50	12
<b>The following iron is available for export</b>						
SP25D	47590	25	220/240	50/60	—	12

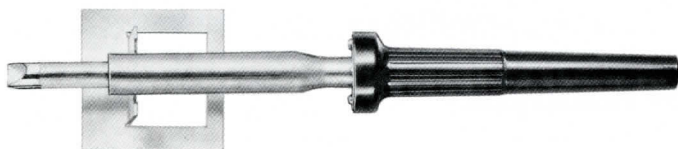
### SP40 Iron (40 watt)



8 $\frac{1}{4}$ " / 210mm only. Lightweight pencil iron for hobby and electronic work.  $\frac{1}{4}$ " / 6mm diameter tip develops 900°F(482°C). Weighs 2 oz. Packed 6 cards per master carton weighing 2 $\frac{1}{4}$  lb/1.2 kg.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP40	47387	40	120	50/60	2 $\frac{1}{4}$ /1.2	6
<b>The following iron is available for export</b>						
SP40D	47592	40	220/240	50/60	2/.90	6

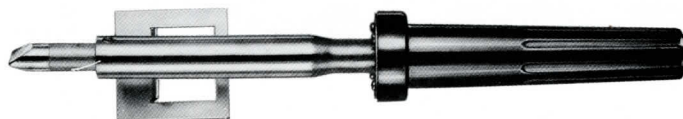
### SP80 Iron (80 watt)



9 $\frac{3}{4}$ " / 247mm long. Medium-duty pencil iron for hobby work, stained glass and minor repairs includes soldering iron rest.  $\frac{3}{4}$ " / 19mm diameter tip develops 900°F(482°C). Weighs 4 oz/13 g. Packed 6 cards per master carton weighing 3 lb/1.36 kg.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP80	47413	80	120	50/60	3/1.36	6
<b>The following iron is available for export</b>						
SP80D	47593	80	220/240	50/60	2 $\frac{3}{4}$ /1.25	6

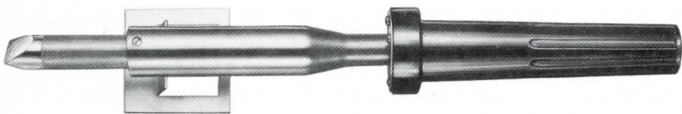
### SP120 Iron (120 watt)



11 $\frac{3}{8}$ " / 289mm long. Heavy-duty iron for greater output. Ideal for home work-shop and repairs, stained glass and hobbies, includes soldering iron rest.  $\frac{1}{2}$ " / 13mm diameter long-life iron plated tip develops 900°F(482°C). Weighs 10 oz/283 g. Packed 3 cards per master carton weighing 3 $\frac{1}{2}$  lb/1.6 kg.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP120	47453	120	120	50/60	3 $\frac{1}{2}$ /1.6	3
<b>The following iron is available for export</b>						
SP120D	—	120	220/240	50/60	5 $\frac{1}{4}$ /2.7	5

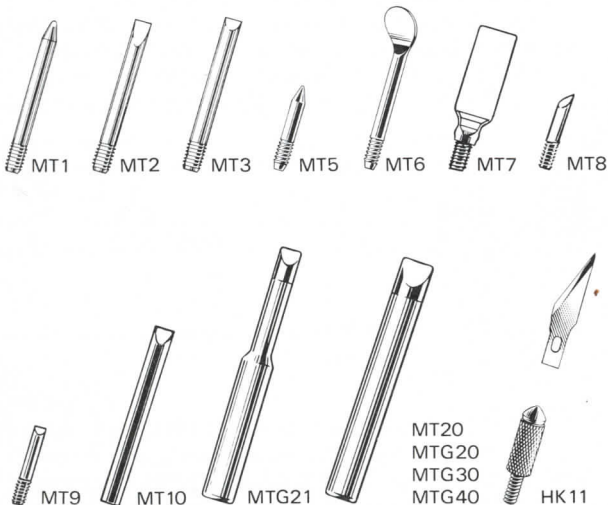
SP175 Iron (175 watt)



12½" /318mm long. Extra heavy duty iron for demanding jobs like sheet metal work. Includes soldering iron rest. ⅝" /16mm diameter long-life iron plated tip develops 900°F(482°C). Weighs 1 lb/0.45 kg. Packed 3 cards per master carton weighing 4 lb/1.81 kg.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP175	47467	175	120	50/60	4/1.81	3
The following iron is available for export.						
SP175D	—	80	240	50/60	4/1.81	3

Marksman irons replacement tips



These quality tips are made from nickel-plated copper and are available in a variety of styles. MTG series tips are iron plated for the heavy duty irons. Carded as shown below and packed 6 cards per carton.

Cat. No.	N/S No.	For Model	Tip Size	Description	Packed
MT1	47217	SP23/SP25D	⅛" /3mm	Cone shape	2/card
MT2	47241	SP23/SP25D	⅛" /3mm	Screwdriver	2/card
MT3	47250	SP23/SP25D	⅛" /3mm	Chisel	2/card
MT5	47279	SP23/SP25D	⅛" /3mm	Woodburning	1/card
MT6	47300	SP23/SP25D	⅛" /3mm	Smoother	1/card
MT7	47783	SP23/SP25D	—	Macrame	1/card
MT8	47806	SP23WB	—	Woodburning	1/card
MT9	47807	SP23WB	—	Woodburning	1/card
MT10	47361	SP40/SP40D	¼" /6mm	Chisel	2/card
MT20	47365	SP80/SP80D	⅜" /10mm	Chisel	1/card
MTG20	47659	SPG80	⅜" /10mm	Chisel	1/card
MTG21	47660	SPG80	¼" /6mm	Chisel	1/card
MTG30	47790	SP120/SP120D	½" /13mm	Chisel	1/card
MTG40	47867	SP175	⅝" /16mm	Chisel	1/card
HK11	47362	SP23/SP25D	⅛" /3mm	Blade and chuck	1/card

Soldering kits for the professional or hobbyist  
SP23 Kit



Includes Weller SP23 iron, three different pre-tinned ⅛" /13mm diameter tips of plated copper. 40/60 rosin-core solder. Helpful hints and instructions on back of card. Carded UL-listed. SP25DK is the same as SP23K except voltage.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP23K	47369	25	120	50/60	—	12
SP25DK	47591	25	220/240	50/60	2/907	12



## SPG80 Stained glass soldering iron



The Weller SPG80 is specifically designed for stained glass work. This Medium Duty 80 watt soldering iron has been introduced by Weller for the growing stained glass art and hobby craft group. It comes complete with two new long-life plated tips and soldering iron stand. The new SPG80 with  $\frac{1}{4}$ " / 6mm and  $\frac{3}{8}$ " / 110mm chisel-shaped tips develops 900°F (482°C) tip temperature for precision soldering of the most intricate work. It measures  $9\frac{1}{4}$ " / 235mm long and weighs 7 oz / 198 g.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SPG80	47662	80	120	50/60	2 $\frac{3}{4}$ /1.25	6

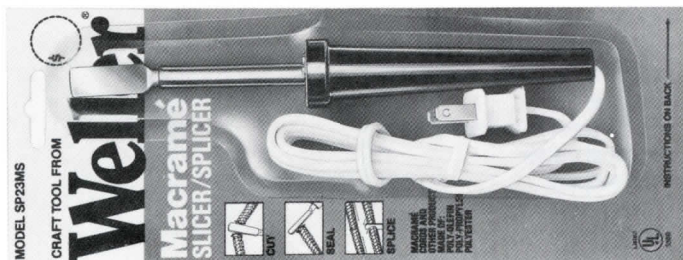
## SP23HK Hot knife kit



Designed for cutting through plastic and other man-made materials. The super sharp precision blade is boosted with just the right amount of heat for quick, clean accurate cuts. Kit includes SP23 iron, HK 11  $\frac{1}{8}$ " / 3mm blade and chuck and MT 1  $\frac{1}{8}$ " / 3mm cone shape soldering tip. Vacuum packed on handy hang-up card. UL-listed.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP23HK	47743	25	120	50/60	4/1.8	12

## SP23MS Macrame-slicer/splicer



The Weller SP23MS makes it easy to work with poly cords. Its unique tip, boosted by just the right touch of heat, glides through cord to make a ravel-free cut. Bonding cords together for changes in color or texture takes only seconds. Vacuum packed on handy hang-up card. UL-listed.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP23MS	47782	25	120	50/60	4/1.8	12

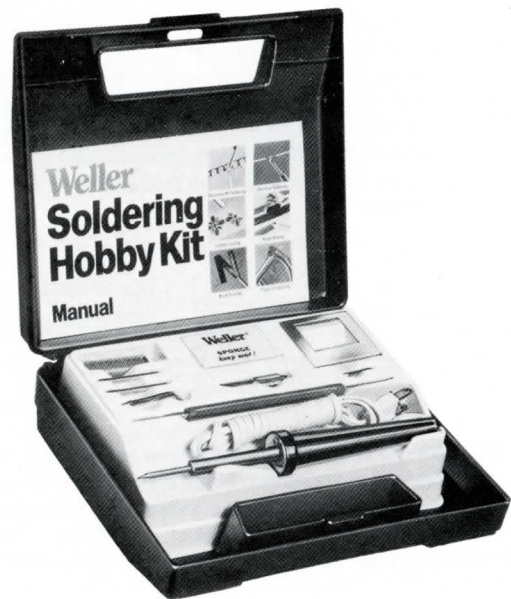
## SP23WB Woodburning kit



Featherweight iron with replaceable tips and pencil handle, designed for wood and cork burning, leather tooling and candle sculpturing. Kit contains 3 versatile tips: cone, screwdriver and chisel. Each tip is capable of developing a temperature of 825°F (440°C). Small, lightweight handle weighs only 1  $\frac{3}{4}$  oz / 42 g, as easy to use as a pencil. 2-wire cord. UL-listed. Vacuum packed on attractive hang-up card, with instructions on back.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
SP23WB	47801	25	120	50/60	4/1.8	12

230K Soldering hobby kit



The twelve piece 230K soldering hobby kit has everything needed for electronic kit soldering, leather tooling, model making, wood-burning and plastic sculpturing. 25 watt, 120 volt Marksman soldering iron develops a tip temperature of 750°F(400°C) which makes it ideal for intricate soldering. The 230K is one of the most versatile soldering hobby kits of its kind. Full manual of instructions and uses is enclosed in attractive sturdy carrying case. The 230DK is the same as the 230K except voltage.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
230K	47530	25	110/130	60	5/2.27	6

250K Weller/Xcelite electronic tool kit



The 250K electronic tool kit contains an ideal selection of basic tools for anyone getting involved in kit building, radio-TV repair or any related project. The 250DK is the same as 250K except voltage.

The 250K contains:

**Weller:**

- WP-25 soldering iron and 2 extra tips
- Soldering aid tool
- 283g/10oz. Rosin core solder.

**Xcelite:**

- 4" /101mm long nose pliers
- Diagonal cutter
- Wire stripper
- ¼" /6mm nutdriver
- Slotted screwdriver
- No. 1 Phillips head screwdriver
- All in a convenient storage tray.

Cat. No.	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
250K	47536	25	110/130	60	6/2.72	6



## Mini-Shop kits

The most versatile of power tools: clean-cut-drill-grind-polish-rout-sand-saw-shape-sharpen. Powered by 28,000 rpm 1 Amp. precision wound permanent magnet motor. Ideal for handymen, hobbyist and professionals. Small and easy to handle. Perfect for delicate work and hard to reach places. Flat flexible 3-wire cord.

### 601K and 651K



#### 601K

46 piece kit, includes all accessories as listed below. Packed in convenient plastic carrying case and includes a booklet which illustrates use of each accessory.

Cat. No.	Description	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
601K	Complete kit	47545	120	120	50/60	8/3.63	3
601	Power unit only	47640	120	120	50/60	—	3

#### 651K Variable speed kit

Identical to model 601K kit except that the power unit's output speed is adjustable by means of a continuously variable, solid-state control knob on the base of the unit, giving speeds from 5,000 RPM to 28,000 RPM. Permits user to match working speed to the requirements of the material being machined. Also included is high-speed steel engraving tip for permanent identification marking of most surfaces except hard steel and glass.

Cat. No.	Description	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
651K	Complete kit	47548	120	120	50/60	8/3.63	3
651	Power unit only	47641	120	120	50/60	—	3

#### Contents for 601K and 651K

Qty.	Cat. No.	N/S No.	Qty.	Cat. No.	N/S No.	Qty.	Cat. No.	N/S No.
1 x	MS201	47475	1 x	MS211	47485	1 x	MS222	47496
1 x	MS202	47476	1 x	MS212	47486	1 x	MS223	47497
1 x	MS203	47477	1 x	MS213	47487	1 x	MS224	47498
2 x	MS204	47478	1 x	MS214	47488	1 x	MS225	47499
1 x	MS205	47479	1 x	MS215	47489	1 x	MS226	47500
6 x	MS206	47480	1 x	MS216	47490	1 x	MS227	47501
6 x	MS207	47481	1 x	MS217	47491	1 x	MS228	47502
1 x	MS208	47482	1 x	MS219	47493	1 x	*MS232	47298
1 x	MS209	47483	1 x	MS220	47494	1 x	Owner's manual	
6 x	MS210	47484	1 x	MS221	47495	1 x	Storage case	

\*Included in 651K only.

## 621K and 641K



### 621K

21 piece kit, includes all accessories as listed below. Packed in convenient plastic carrying case and includes a booklet which illustrates use of each accessory.

Cat. No.	Description	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
621K	Complete kit	47773	120	120	50/60	6/3.17	3
601	Power unit only	47640	120	120	50/60	—	3

### 641K Variable speed kit

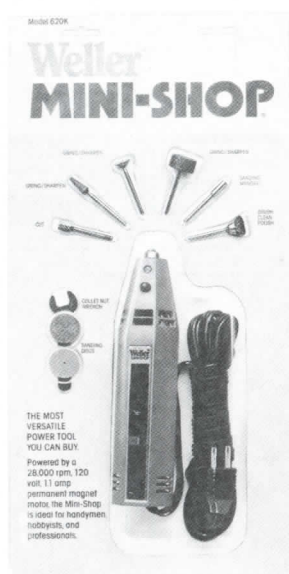
Identical to model 621K kit except that the power unit's output speed is adjustable by means of a continuously variable, solid-state control knob on the base of the unit, giving speeds from 5,000 to 28,000 RPM. Permits the user to match working speed to the requirements of the material being machined.

Cat. No.	Description	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
641K	Complete kit	47734	120	120	50/60	—	3
651	Power unit only	47641	120	120	50/60	—	3

### Contents for 621K and 641K

Qty.	Cat. No.	N/S No.	Qty.	Cat. No.	N/S No.	Qty.	Cat. No.	N/S No.
1 x	MS201	47475	1 x	MS208	47482	1 x	MS214	47488
1 x	MS203	47477	1 x	MS209	47483	1 x	MS221	47495
3 x	MS206	47480	3 x	MS210	47484	1 x	MS223	47497
3 x	MS207	47481	1 x	MS212	47486	1 x	MS225	47499
1 x	MS226	47500	1 x	MS228	47502			

## 620K kit



14-piece kit, includes power unit 601 and accessories as listed below. Vacuum packed on handy hang-up card.












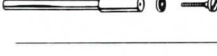

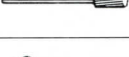

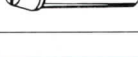
Cat. No.	Description	N/S No.	W	V	Hz	Pack wt. lb/kg	Shelf Pack
620K	Complete kit	47546	120	120	50/60	11/5	3
601	Power unit only	47640	120	120	50/60	—	3

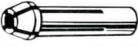







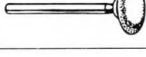




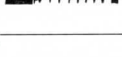

### Contents for 620K

Qty.	Cat. No.	N/S No.	Qty.	Cat. No.	N/S No.	Qty.	Cat. No.	N/S No.
1 x	MS201	47475	1 x	MS212	47486	1 x	MS223	47497
3 x	MS206	47480	1 x	MS214	47488	1 x	MS225	47499
3 x	MS207	47481	1 x	MS221	47495	1 x	MS228	47502



## Mini-Shop accessories

	Cat. No.	N/S No.	Description	Shelf Pack
	MS201	47475	Cup brush (bristle) 1 per card	3
	MS202	47476	Disc brush (bristle) 1 per card	3
	MS203	47477	Brush (wire) 1 per card	3
	MS204	47478	Drum sander band Course 50 grit 6 per card	3
	MS205	47479	Drum sander band Fine 120 grit 6 per card	3
	MS206	47480	Sanding disc Course 80 grit 12 per card	3
	MS207	47481	Sanding disc Fine 120 grit 12 per card	3
	MS208	47482	Felt polishing wheel 6 per card	3
	MS209	47483	Rubber abrasive wheel 2 per card	3
	MS210	47484	Cut off wheel 3 per card	3
	MS211	47485	Expanding drum 1 per card	3
	MS212	47486	Mandrel 38mm/1 1/2" 1 per card	3
	MS213	47487	Cutter ball (1/4" / 6.35mm dia.) 1 per card	3
	MS214	47488	Cutter cylinder (1/4" / 6.35mm x 1/2" / 12.70 long) 1 per card	3
	MS215	47489	Adapter collet 3/32" / 0.79mm 1 per card	3
	MS216	47490	Adapter collet 1/8" / 1.58mm 1 per card	3

	Cat. No.	N/S No.	Description	Shelf Pack
	MS217	47491	Adapter collet 3/32" / 2.38mm 1 per card	3
	MS218	47492	Mini-shop collet 1/8" / 3.17mm 1 per card	3
	MS219	47493	Grinding wheel 1/4" x 1/2" / 6.35mm x 12.7mm 1 per card	3
	MS220	47494	Grinding wheel 1/2" x 3/8" / 12.70mm x 9.52mm 1 per card	3
	MS221	47495	Grinding wheel 3/4" x 3/8" / 19.05mm x 9.52mm 1 per card	3
	MS222	47496	Grinding wheel 3/4" x 1/2" / 19.05mm x 12.7mm 1 per card	3
	MS223	47497	Grinding point 1/4" x 3/8" / 6.35mm x 15.87mm 1 per card	3
	MS224	47498	Grinding point 3/8" x 1/2" / 9.52mm x 12.7mm 1 per card	3
	MS225	47499	Grinding point 1/2" x 3/4" / 12.70mm x 19.05mm 1 per card	3
	MS226	47500	Dressing stone 1 per card	3
	MS227	47501	Drill 1/8" / 3.17mm 1 per card	3
	MS228	47502	Wrench 1 per card	3
	MS229*	47503	Safety goggles 1 per pack	1
	MS231*	47504	Motor brushes 2 per card	3
	MS232*	47928	Engraving tip 1 per card	3

## Mini-Shop Accessories kits



### MS250 (47664) Polishing Kit

Contains 1 each: MS201, MS203, MS208, MS209, MS210.

### MS251 (47665) Sanding kit

Contains 1 each: MS204, MS205, MS206, MS207, MS210.

### MS252 (47666) Grinding kit

Contains 1 each: MS219, MS220, MS223, MS224, MS210

### MS253 (47667) Cutting kit

Contains 1 each: MS213, MS214

## Replacement and repair parts for all soldering irons

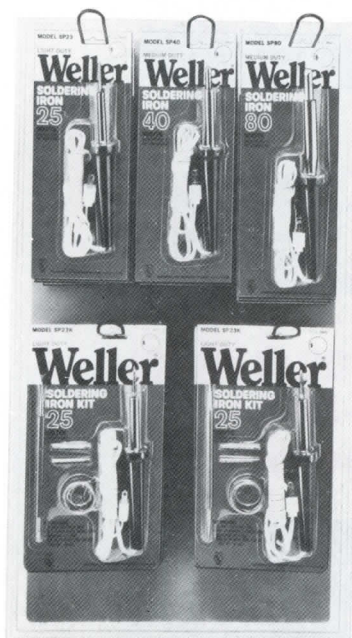
Cat. No.	N/S No.	Description	Shelf Pack
7333	47577	Bulb Screw-WC100-Not "N" Guns	1
CS2	47223	Cord Set, Strain Relief WP/SP	1
CS3HB	47245	Cord Set, Strain Relief W60/W100	1
CS4HB	47256	Cord Set, Strain Relief & Handle Asst. Kit W60-3,W100-3	1
CS100HB	47415	Cord Set w/Hdle	1
FP1	47210	Fuse Line	1
HA1	47211	Handle: SP23,SP40,SP80	1
HA1B	47212	Handle: W60-W100	1
HA1B2	47213	Handle/Cord Set Assy. 2 wire	1
HE2	47237	Heating Element,WP25	1
HE4	47258	Heating Element, WP40	1
HE12	47363	Heating Element, TCP12	1
HE23	47367	Heating Element, SP23	1
HE24	47370	Heating Element, TCP24	1
HE40	47382	Heating Element, SP40	1
HE60DS	47788	Heating Element, DS102	1
HE80	47633	Heating Element, SP80	1
HE175	47468	Heating Element, SP175	1
HEDS40	47383	Heating Element w/Barrel & Flange	1
HEW60	47398	Heating Element, W60	1
HEW100	47419	Heating Element, W100	1
KN60	47399	Knurled Tip Nut, WP25/WP40	1
KN60A	47400	Knurled Tip Nut, W60	1
KN100A	47418	Knurled tip Nut, W100	1
LN2	47238	Lamp Assy. WTCPL PU-2	1
MP126	47455	650° Soldering Pencil w/MP131 tip	1
MP127	47456	750° Soldering Pencil w/MP131 tip	1
MP201	47506	Transformer w/Terminals	1
MP202	47508	Sponge	10
MP210	47524	Barrel Nut Assy.	1
MP213	47523	Funnel	5
MP214	47525	Iron Holder Assy.	1
MP303	47537	Iron Receptacle w/Control Circuit	1
MP304	47538	Switch w/Light	1
PUS	47204	Switch, PU2 Power Unit	1
RR40	47386	Retaining Ring	1
SD1	47219	Stand	1
SW60	47407	Switch Assy.-TCP1-TCP12-W60-DS101-DS102	1
SW100	47423	Switch Assy.-W100	1
TCP1	47222	Replacement Pencil	1
TC257	47639	Pkg. of 5 tips/PT-A7, PT-C7, PT-D7, PT-O7, PT-L7	1
VB40	47392	Vacuum Bulb	1
WC201	47507	Charger/WC100	1
WC202	47510	Battery Pack/WC100	1
WC203	47514	Housing/WC100	1
WC205	47518	Tip Screws/WC100	1
WTCPK	47608	Insulated Transformer Non-Burnable Cord, Set Temperature Controlled.	1



## Weller Modules

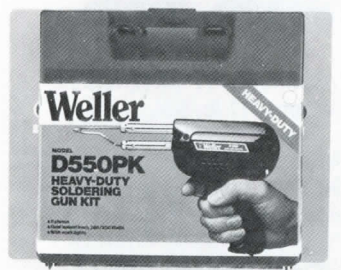
For use with the Cooper Tool Wall. For additional information regarding the Cooper module system see the last 2 pages of this catalog.

### TW-40 (47699) Marksman soldering iron module



Size: 16" / 400mm x 29" / 740mm (A).  
Shipping weight: 9 lb/4.08 Kg.  
Contains: Two (2) Each SP23, SP40, SP80, Four (4) SP23K.  
TW40A (47700) Marksman Soldering Iron Assortment.

### TW-42 (47703) Soldering Gun Module



Size: 16" / 400mm x 13" / 330mm (C).  
Shipping weight: 12 lb/5.44 Kg.  
Contains: Two (2) D550PK.  
TW-42A (47704) Soldering Gun Assortment.

### TW-103 (47705) Soldering Gun Module



Size: 16" / 400mm x 29" / 740mm (A).  
Shipping weight: 26 lb/11.79 Kg.  
Contains: Three (3) Each 8200W, 8200PK, 7135, 6110.  
TW-103A (47706) Soldering Gun Assortment.

### TW-104 (47707) Controlled Irons Module



Size: 16" / 400mm x 13" / 330mm (C).  
Shipping weight: 6 lb/2.72 Kg.  
Contains: Two (2) Each W60, W100, CT5A7, CT5C7, CT5E7, CT6D7, CT6E7, CT6F7.  
TW-104A (47708) Controlled Irons Assortment.

### TW-105 (47709) Iron Module



Size: 16" / 400mm x 29" / 740mm (A).  
Shipping weight: 15 lb/6.80 Kg.  
Contains: Three (3) Each SP23, SP40, SP80, SP23K, WP25, WP40, MT1, MT2, MT3, MT10, MT20, ST1, ST2, ST3.  
TW-105A (47710) Iron Assortment.

### TW-201 (47744) Hobby Iron Module



Size: 16" / 400mm x 29" / 740mm (A).  
Shipping weight: 11 lb/4.99 Kg.  
Contains: Two (2) Each W100, GT7A, SP40, SP80, SPG80.  
TW-201 A (47753) Hobby Iron Assortment.



## TW-202 (47745) Hobby Tips and Accessories Module



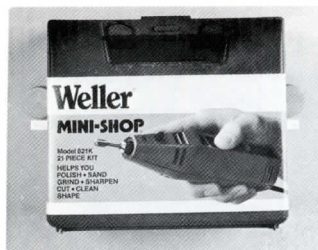
Size: 16" / 400mm x 13" / 330mm (C).  
Shipping weight: 5 lb/2.27 Kg.  
Contains: Two (2) 7A, Three (3) CT6E7,  
CT6F7, MT10, MTG20, MTG21.  
TW-202A (47754) Hobby Tips and  
Accessories Assortment.

## TW-203 (47785) Mini-Shop Module



Size: 16" / 400mm x 29" / 740mm (A).  
Shipping weight: 13 lb/5.90 Kg.  
Contains: Two (2) Each 620K, MS250,  
MS251, MS252, MS253, MS202,  
MS203, MS222, MS216, MS211,  
MS212, MS215, MS232, MS217,  
MS226.  
TW-203A (47795) Mini-Shop  
Assortment.

## TW-209 (47786) Mini-Shop Module



Size: 16" / 400mm x 13" / 330mm (C).  
Shipping weight: 7 lb/3.17 Kg.  
Contains: Two (2) 621K.  
TW-209A (47799) Mini-Shop  
Assortment.

## TW-210 (47787) Mini-Shop Module



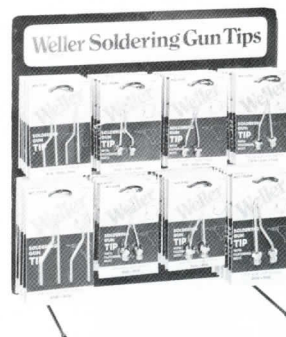
Size: 16" / 400mm x 13" / 330mm (C).  
Shipping weight: 7 lb/3.17 Kg.  
Contains: Two (2) 641K.  
TW-210A (47792) Mini-Shop  
Assortment.

## MD12 (47364) Marksman Soldering Irons Display



Size: 19 1/2" / 500mm x 8" / 200mm  
Shipping weight: 8 lb/3.62Kg.  
Contains: Three (3) Each SP23K,  
SP23, SP40, SP80.

## RT48 (47393) Soldering Gun Tip Merchandiser



Size: 14 1/2" / 370mm x 14" / 355mm  
Shipping weight: 5 lb/2.27 Kg.  
Contains: Twelve (12) Each 7135,  
7250, Six (6) Each 7135N,  
6110, 6120, 6130, 6140, 7250N.

## MS108 (47635) Mini-Shop Accessories



Size: 25" / 635mm x 17" / 432mm  
Shipping weight: 11 lb/5 Kg.  
Contains: Three (3) Each MS201,  
MS202, MS203, MS206, MS207,  
MS209, MS211, MS212, MS215,  
MS216, MS217, MS218, MS219,  
MS220, MS221, MS222, MS223,  
MS224, MS225, MS226, MS227,  
MS228, MS231, MS232.  
Six (6) Each MS204, MS205, MS208,  
MS210, MS213, MS214.



## **TW-320 (EXPORT)** **Marksman** **soldering iron** **module**

Size: 16"/400mm x 29"/740mm (A).  
Shipping weight: 9 lb/4.0 Kg.  
Contains: Two (2) Each SP25D, SP40D,  
SP80D, Four (4) Each SP25DK.  
TW320A Marksman Soldering Iron  
Assortment.

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## **TW-322 (EXPORT)** **Soldering gun** **module**

Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 12lb/5.44 Kg.  
Contains: Two (2) 8250DPK.  
TW-322A Soldering Gun Assortment.

## **TW-323 (EXPORT)** **Soldering gun** **module**

Size: 16"/400mm x 29"/740mm (A).  
Shipping weight: 26 lb/11.79 Kg.  
Contains: Three (3) Each 8200D,  
8200DPK, 7135, 6110.  
TW-323A Soldering Gun Assortment.

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## **TW-324 (EXPORT)** **Controlled irons** **module**

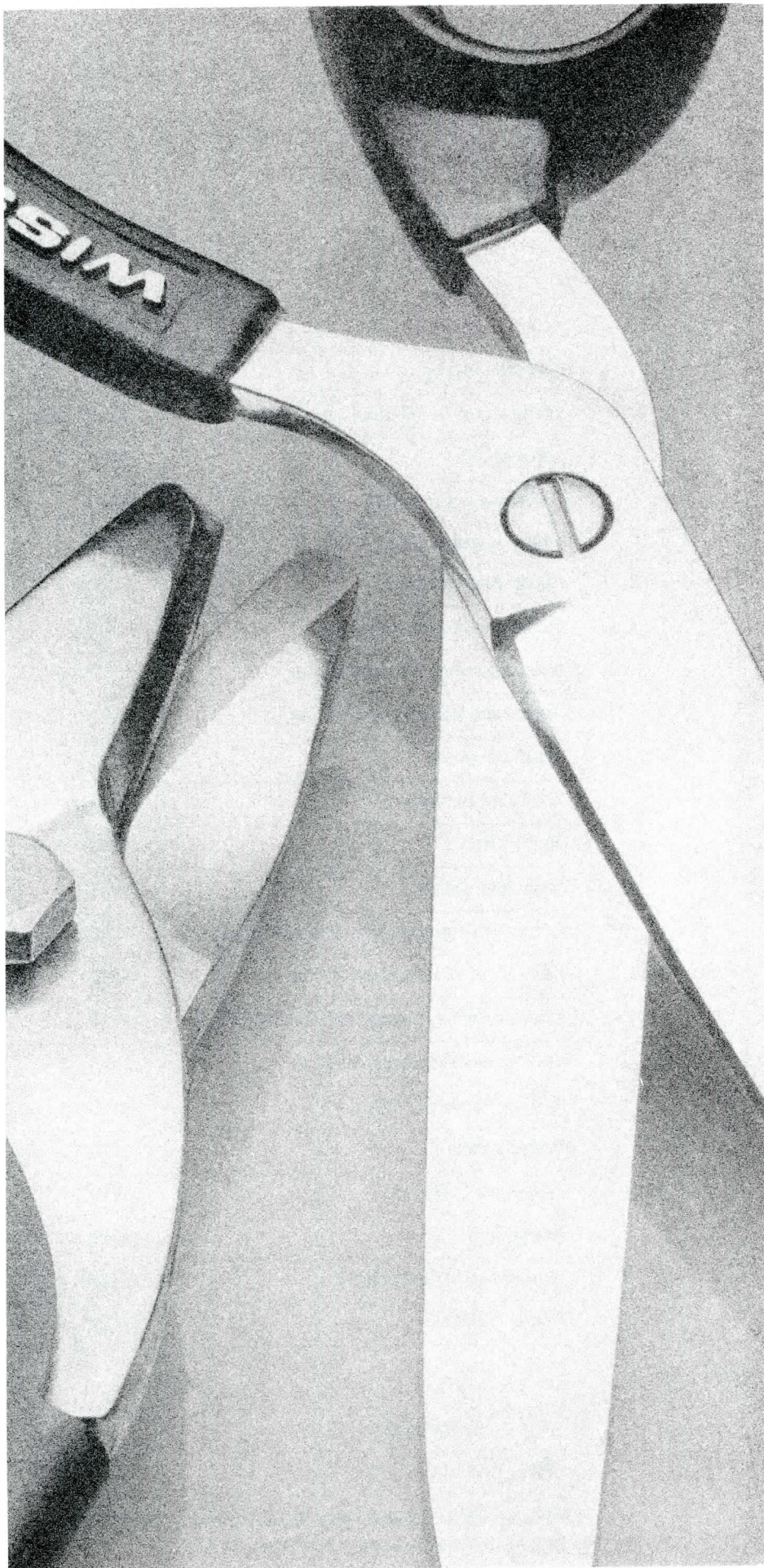
Size: 16"/400mm x 13"/330mm (C).  
Shipping weight: 6 lb/2.72 Kg.  
Contains: Two (2) Each W60D, W100D,  
CT5A7, CT5C7, CT5E7, CT6D7,  
CT6E7, CT6F7.  
TW-324A Controlled Irons Assortment.

## **TW-325 (EXPORT)** **Iron module**

Size: 16"/400mm x 29"/740mm (A).  
Shipping weight: 15 lb/6.80 Kg.  
Contains: Three (3) Each SP25D, SP40D,  
SP80D, SP25DK, WP25D, WP40D,  
MT1, MT2, MT3, MT10, ST1, ST2,  
ST3, MT20.  
TW-325A Iron Module Assortment.

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
6B	WE11	DS40-3	WE10	HE24	WE22	MT9	WE16	SP60	WE8
7A	WE11, WE24	DS60	WE8, WE10	HE40	WE22	MT10	WE16, WE23, WE24, WE25	SP80	WE15, WE23
230K	WE18	DS100	WE6, WE10	HE60	WE6			SP80D	WE15, WE25
250K	WE18	DS101	WE6	HE60DS	WE22	MT20	WE16, WE23, WE25	SP120	WE15
250DK	WE18	DS101Z	WE6	HE80	WE22	MTG20	WE16, WE24	SP120D	WE15
601	WE19, WE20	DS102	WE5, WE6	HE175	WE22	MTG21	WE16, WE24	SP175	WE16
601K	WE19	DS102Z	WE6	HEDS40	WE22	MTG30	WE16	SP175D	WE16
620K	WE20, WE24	DS103	WE5, WE6	HEW60	WE22	MTG40	WE16	SPG80	WE17, WE23
621K	WE20, WE24	DS104	WE5, WE6	HEW100	WE22	PH25	WE9	ST1	WE9, WE23, WE25
641K	WE20, WE24	DS105	WE5, WE6	HK11	WE16	PH60	WE8, WE10	ST2	WE9, WE23, WE25
651	WE19, WE20	DS106	WE5, WE6	KN60	WE22	PH100	WE8	ST3	WE9, WE23, WE25
651K	WE19	DS107	WE5, WE6	KN60A	WE22	PHM120	WE4	ST4	WE9
4204	WE14	DS110	WE6	KN100A	WE22	PTA6	WE3	ST5	WE9
4206	WE14	DS111	WE6	LN2	WE22	PTAA6	WE3	ST6	WE9
6110	WE14	DS112	WE6	MD12	WE24	PTA7	WE3	ST7	WE9
6120	WE14	DS113	WE6	MP126	WE22	PTAA7	WE3	ST8	WE9
6130	WE14	DS114	WE5, WE6	MP127	WE22	PTA8	WE3	SW60	WE2, WE6, WE22
6140	WE14	DS115	WE6	MP131	WE4	PTAA8	WE3	SW100	WE22
7135	WE14	DS116	WE6	MP132	WE4	PTB6	WE3	TC201	WE2
7135N	WE14	DS117	WE6	MP133	WE4	PTBB6	WE3	TC201Z	WE2
7194	WE14	DS118	WE6	MP134	WE4	PTB7	WE3	TC202	WE2
7195	WE14	DS201	WE6	MP135	WE4	PTBB7	WE3	TC203	WE2
7200	WE13, WE14	DS202	WE6	MP136	WE4	PTB8	WE3	TC203Z	WE2
7200D	WE14	DS203	WE6	MP137	WE4	PTBB8	WE3	TC204	WE2
7200PK	WE13	DS204	WE6	MP138	WE4	PTC6	WE3	TC205	WE2
7200DPK	WE13	DS205	WE6	MP201	WE22	PTCC6	WE3	TC206	WE2
7204	WE14	DS206	WE6	MP202	WE22	PTC7	WE3	TC207	WE2
7235	WE14	DS217	WE6	MP210	WE22	PTCC7	WE3	TC208	WE2
7250	WE14	DS218	WE6	MP213	WE22	PTC8	WE3	TC208Z	WE2
7250N	WE14	DS220	WE6	MP214	WE22	PTCC8	WE3	TC209	WE2
7323	WE14	DS225	WE6	MP303	WE22	PTD6	WE3	TC210	WE2
7324	WE14	DS500	WE5, WE6	MP304	WE22	PTDD6	WE3	TC257	WE2, WE22
7325	WE14	DS501	WE5	MS108	WE24	PTD7	WE3	TC369A	WE2
7333	WE22	DS502	WE5	MS201	WE19, WE20, WE21, WE24	PTDD7	WE3	TCP1	WE22
7409	WE14	DS503	WE5			PTD8	WE3	TCP12	WE10
7412	WE14	DS504	WE5	MS202	WE19, WE21, WE24	PTDD8	WE3	TCP24	WE10
7417	WE14	DS600	WE5, WE6	MS203	WE19, WE20, WE21, WE24	PTD8	WE3	TW-40	WE23
8100-RH	WE14	DS601	WE5			PTD8	WE3	TW-40A	WE23
8125	WE14	DS602	WE5	MS204	WE19, WE21, WE24	PTD8	WE3	TW-42	WE23
8125N	WE14	DSF40	WE10	MS205	WE19, WE21, WE24	PTD8	WE3	TW-42A	WE23
8200	WE12, WE14	DSF40-3	WE10	MS206	WE19, WE20, WE21, WE24	PTD8	WE3	TW-103	WE23
8200-3	WE12	DSH40	WE10			PTD8	WE3	TW-103A	WE23
8200D	WE12	DST1	WE10			PTD8	WE3	TW-104	WE23
8200DPK	WE12	DST2	WE10			PTD8	WE3	TW-104A	WE23
8200PK	WE12, WE23	DST3	WE10	MS207	WE19, WE20, WE21, WE24	PTD8	WE3	TW-105	WE23
8200-RH	WE14	DST4	WE10			PTD8	WE3	TW-105A	WE23
8200W	WE12, WE23	DST5	WE10	MS208	WE19, WE20, WE21, WE24	PTD8	WE3	TW-201	WE23
8250D	WE12	DST6	WE10			PTD8	WE3	TW-201A	WE23
8250DPK	WE13	DSTCP	WE2, WE3, WE10	MS209	WE19, WE20, WE21, WE24	PTD8	WE3	TW-202	WE24
9200K	WE13, WE14	EC205	WE1	MS210	WE19, WE20, WE21, WE24	PTD8	WE3	TW-202A	WE24
AC40	WE11	EC208	WE1			PTD8	WE3	TW-203	WE24
AC303P	WE11	EC210	WE1	MS211	WE19, WE21, WE24	PTD8	WE3	TW-203A	WE24
BA60	WE1, WE2	EC211	WE1	MS212	WE19, WE20, WE21, WE24	PTD8	WE3	TW-209	WE24
CS2	WE22	EC212	WE1			PTD8	WE3	TW-209A	WE24
CS3HB	WE22	EC213	WE1	MS213	WE19, WE21, WE24	PTD8	WE3	TW-210	WE24
CS4HB	WE22	EC219	WE1, WE2	MS214	WE19, WE20, WE21, WE24	PTD8	WE3	TW-210A	WE24
CS100HB	WE22	EC220	WE1, WE2			PTD8	WE3	TW320	WE25
CT5A6	WE7	EC1000	WE1	MS215	WE19, WE21, WE24	PTD8	WE3	TW320A	WE25
CT5A7	WE7, WE23, WE25	EC1000D	WE1	MS216	WE19, WE21, WE24	PTD8	WE3	TW322	WE25
CT5A8	WE7	EC1002A	WE1	MS217	WE19, WE21, WE24	PTD8	WE3	TW322A	WE25
CT5B6	WE7	EC1201A	WE1	MS218	WE21, WE24	PTD8	WE3	TW323	WE25
CT5B7	WE7	EC2000	WE1	MS219	WE19, WE21, WE24	PTD8	WE3	TW323A	WE25
CT5B8	WE7	EC2000D	WE1	MS220	WE19, WE21, WE24	PTD8	WE3	TW324	WE25
CT5C6	WE7	EC2002A	WE1	MS221	WE19, WE20, WE21, WE24	PTD8	WE3	TW324A	WE25
CT5C7	WE7, WE23, WE24	ETA	WE2			PTD8	WE3	TW325	WE25
CT5C8	WE7	ETB	WE2	MS222	WE19, WE21, WE24	PTD8	WE3	TW325A	WE25
CT5D6	WE7	ETC	WE2	MS223	WE19, WE20, WE21, WE24	PTD8	WE3	VB40	WE22
CT5D7	WE7	ETCC	WE2			PTD8	WE3	W60	WE7, WE10, WE23, WE8
CT5D8	WE7	ETD	WE2	MS224	WE19, WE21, WE24	PTD8	WE3		
CT5E6	WE7	ETDD	WE2	MS225	WE19, WE20, WE21, WE24	PTD8	WE3	W60-3	WE7
CT5E7	WE7, WE23	ETH	WE2			PTD8	WE3	W100	WE7, WE8, WE23
CT5E8	WE7	ETK	WE2	MS226	WE19, WE20, WE21, WE24	PTD8	WE3	W100-3	WE7
CT6C6	WE7	ETL	WE2			PTD8	WE3	WC111	WE4
CT6C7	WE7, WE23, WE25	ETM	WE2	MS227	WE19, WE21, WE24	PTD8	WE3	WC112	WE4
CT6C8	WE7	ETO	WE2	MS228	WE19, WE20, WE21, WE24	PTD8	WE3	WC113	WE4
CT6D6	WE7	ETP	WE2			PTD8	WE3	WC114	WE4
CT6D7	WE7, WE25	ETR	WE2	MS229	WE21	PTD8	WE3	WC201	WE22
CT6D8	WE7	ETS	WE2	MS231	WE21, WE24	PTD8	WE3	WC202	WE22
CT6E6	WE7	FPI	WE22	MS232	WE19, WE21, WE24	PTD8	WE3	WC203	WE22
CT6E7	WE7, WE23, WE24, WE25	GT	WE11	MS250	WE21, WE24	PTD8	WE3	WC205	WE22
		GT3	WE11	MS251	WE21, WE24	PTD8	WE3	WM120	WE4
CT6E8	WE7	GT6B	WE11	MS252	WE21, WE24	PTD8	WE3	WP25	WE9, WE10, WE18
CT6F6	WE7	GT6B-3	WE11	MS253	WE21, WE24	PTD8	WE3	WP25-3	WE9
CT6F7	WE7, WE23, WE24, WE25	GT7A	WE11, WE23	MT1	WE16, WE17, WE23, WE25	PTD8	WE3	WP25D	WE9, WE25
		GT7A-3	WE11			PTD8	WE3	WP40	WE9, WE10, WE23
CT6F8	WE7	HA1	WE22	MT2	WE16, WE23, WE25	PTD8	WE3	WP40D	WE25
D440-RH	WE14	HA1B	WE22	MT3	WE16, WE23, WE25	PTD8	WE3	WP40-3	WE9
D550	WE12, WE13, WE14	HA1B2	WE22	MT5	WE16	PTD8	WE3	WTCPK	WE22
D550-3	WE12	HE2	WE22	MT6	WE16	PTD8	WE3	WTCPN	WE2
D550PK	WE13, WE23	HE4	WE22	MT7	WE16	PTD8	WE3	WTCPNP	WE2
D550-RH	WE14	HE12	WE22	MT8	WE16	PTD8	WE3	WTCPPZ	WE2
DS40	WE3, WE8, WE10	HE23	WE22			PTD8	WE3		





<sup>®</sup>  
**Wiss**

**CooperTools**





Since 1848, Wiss has manufactured a quality line of cutting tools. Wiss scissors and shears are extremely popular in the garment and dressmaking field and are found in household sewing baskets everywhere. Snips are utilized for industrial cutting and DIY applications, and the Metalmaster range of compound action snips have become a favorite with metal-working craftsmen.

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### Note:

N/S No. is an abbreviation for NIDA/SIDA Number.

### Key to symbols



Overall length



Length of cut

**W is an abbreviation for Wiss Scissors and Shears.**  
**WS is an abbreviation for Wiss Snips.**





The Wiss line of Metalmaster® compound action snips is the most complete line on the market. Metalmasters are one of the most advanced metal cutting tools available today. Originally developed for cutting the extremely tough alloys used in the aircraft industry (hence the nickname Aviation Snips), Metalmasters have become the favorite of most craftsmen who work with metal.

Wiss Metalmaster snips are widely used by home craftsmen and professional metal workers in gutter and flashing work, fabrication of heating and cooling ducts and for aluminum siding installation. Wiss Metalmasters are indispensable to homeowners and maintenance specialists and to industrial workers in the appliance, aircraft, automotive, electrical and construction industries. It is the versatility of Wiss Metalmasters, in addition to their superior cutting qualities, that has made them so popular.

Wiss Metalmasters cut with half the effort required of conventional snips and handle even the biggest jobs. They cut acute angles, complex patterns and perfect circles of even small diameter in galvanized steel up to 18 gauge (.044"). The M5R is recommended for 16 gauge (.065").

The jaws of Wiss Metalmaster snips are hot drop-forged of extra tough and wear-resistant special molybdenum steel to provide the extra service demanded by the compound lever action and to withstand the severe strain of cutting heavy stock or tight curves. The M-41R Pipe and Duct Snips have been specifically developed for the heating and air conditioning industry. They also feature the compound lever action, but have in addition a ball bearing jaw action that automatically adjusts the blade clearance to ensure a squarer, cleaner cut. They cut flat sheet metal without distortion to cut edges.

Wiss also manufactures a comprehensive range of tinner's snips. These are available in a variety of patterns which enable cuts to be made right, left or straight. They are hot drop-forged and have polished jaws for smooth action, combined with cleaner cutting.

### Snips Selection Chart

To find the proper snips for your requirements, check the chart below. Simply find your requirements in the listing. The applicable snips are indicated in the chart.

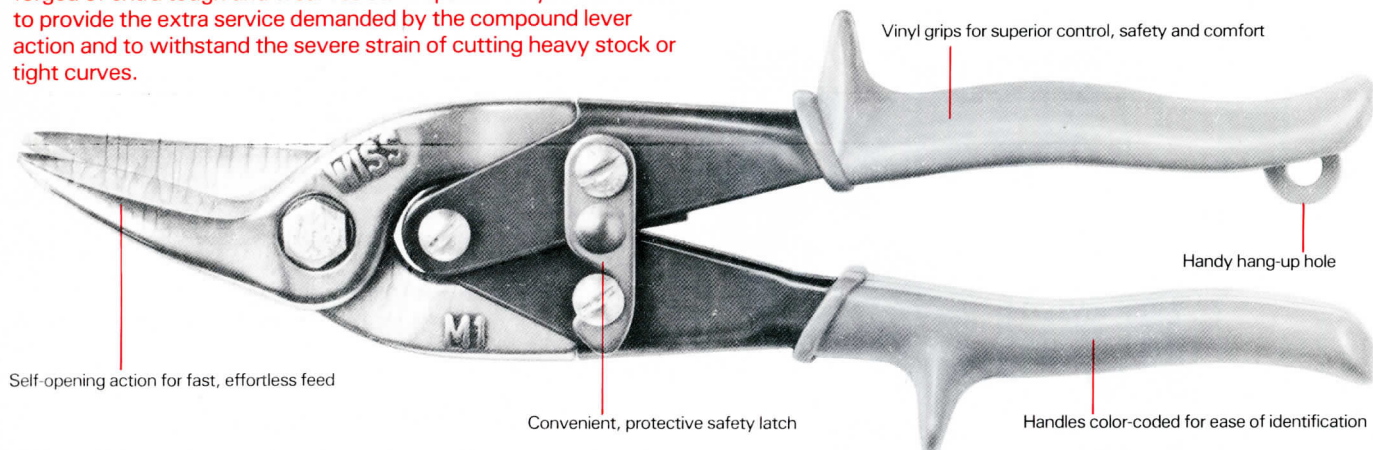
	Metalmaster M-1R, M-2R and M-3R	M-41R	Tinner's Snips A and V Series	MPC-3	BX-N	Metalmaster M-5R	Metalmaster Special Series M1R-S1 and M2R-S1	Industrial Snips W Series
Do-it-Yourselfer	•	•	•	•	•			•
Roofer	•							•
Mechanic	•		•					•
Autobody Worker	•							•
Plumber	•							•
Heating and Cooling Specialist	•	•						•
Electrician	•		•		•			•
Vocational Teacher	•	•	•			•		•
Maintenance worker	•		•					•

### WISS SNIPS FOR SPECIAL JOBS

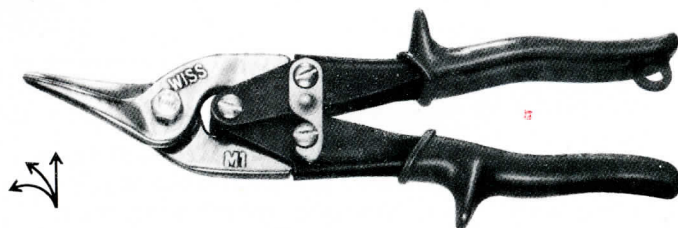
Notching and Nibbling Heavy Stock						•		•
Cutting Curves	•						•	
Double Cut-Snips		•						
Cutting Titanium Inconel, Inconel X, and Stainless Steel							•	

## Metalmaster® compound action snips

The non-slip serrated jaws of Wiss Metalmaster snips are hot drop-forged of extra tough and wear-resistant special molybdenum steel to provide the extra service demanded by the compound lever action and to withstand the severe strain of cutting heavy stock or tight curves.



## Metalmaster® compound action snips M-1R

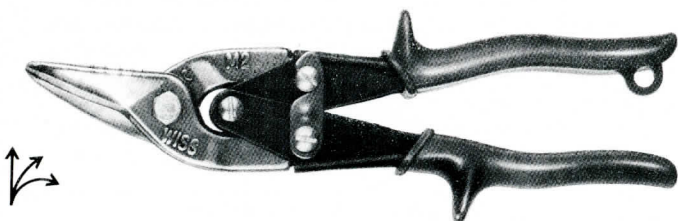


M-1R cuts left from tight curves to straight.

Cat. No.	N/S No.	Length " /mm	Capacity " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
M-1R Red Grips	58012	9 3/4 /248	1 3/8 /35	18 Gauge Steel (0.049" /1.22mm)	84/2381	6

M-1 (58011) is same without grips.

## M-2R

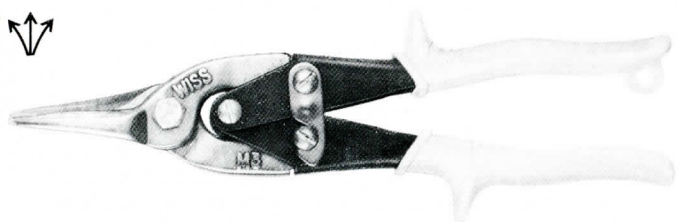


M-2R cuts right from tight curves to straight.

Cat. No.	N/S No.	Length " /mm	Capacity " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
M-2R Green Grips	58018	9 3/4 /248	1 3/8 /35	18 Gauge Steel (0.049" /1.22mm)	84/2381	6

M-2 (58017) is same without grips.

## M-3R



M-3R cuts straight (or wide curves left or right in light stock). Accomplishes most metal cutting requirements of the home craftsman.

Cat. No.	N/S No.	Length " /mm	Capacity " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
M-3R Yellow Grips	58021	9 3/4 /248	1 1/2 /38	18 Gauge Steel (0.049" /1.22mm)	84/2381	6

M-3 (58020) is same without grips.



## Metalmaster® special series snips



Metalmaster special series snips are specially hardened for unusual industrial requirements such as cutting today's space age metals, like Inconel, stainless steel and Titanium. M1R-SI cuts left. M2R-SI cuts right.

Cat. No.	N/S No.	Length " /mm	Blade " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
M1R-S1	58013	9 3/4/248	1 3/8/35	18 Gauge Stainless Steel (0.049" / 1.22mm)	120/3402	6
Blue Grips/cuts left						
M2R-S1	58019	9 3/4/248	1 3/8/35	18 Gauge Stainless Steel (0.049" / 1.22mm)	120/3402	6
Blue Grips/cuts right						

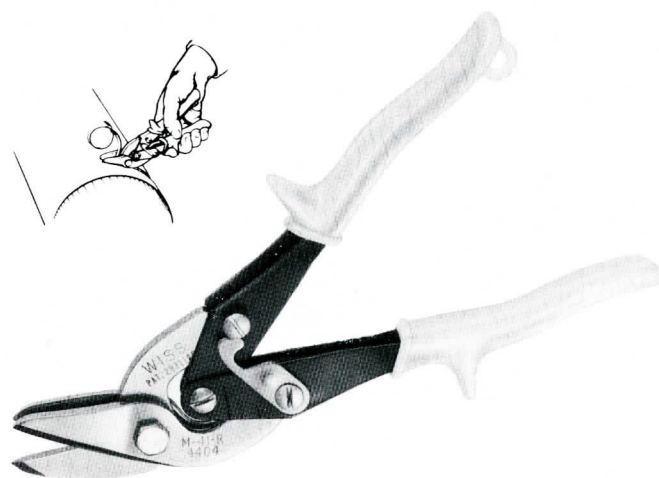
## Metalmaster® compound action bulldog snips



M-5R for notching or trimming extra heavy stock.

Cat. No.	N/S No.	Length " /mm	Blade " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
M-5R	58025	9 1/2/233	3/8/22	16 Gauge steel (0.65" / 1.65mm)	70/1985	6
Red Grips						

## Metalmaster® compound action pipe and duct snips



M-41R cuts straight, curves and any combination. The M-41R is formed of high carbon tool steel. The handles are formed of special high strength steel and have a margin of strength far above the limit of the hand power that can be exerted.

M-41R is widely used in the heating and air conditioning industry as a pipe and duct snip. It is popular for cutting many rigid non-metallic sheet materials such as fiberglass panels, decorative plastic kitchen laminates\*, synthetic shingles, flooring materials and lots more. Wiss Metalmaster M-41R features a patented ball-bearing jaw action that automatically adjusts blade clearance for squarer cleaner cuts.

\*When cutting laminates, the finished surface should be on the side of the center blade to avoid excessive cracking.

Cat. No.	N/S No.	Length " /mm	Blade " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
M-41R	58069	8 1/2/233	3/8/14	20 Gauge Steel (0.035" / 0.89mm)	73/2084	1
Yellow Grips						

## Metal-Wizz® Multi-purpose snips

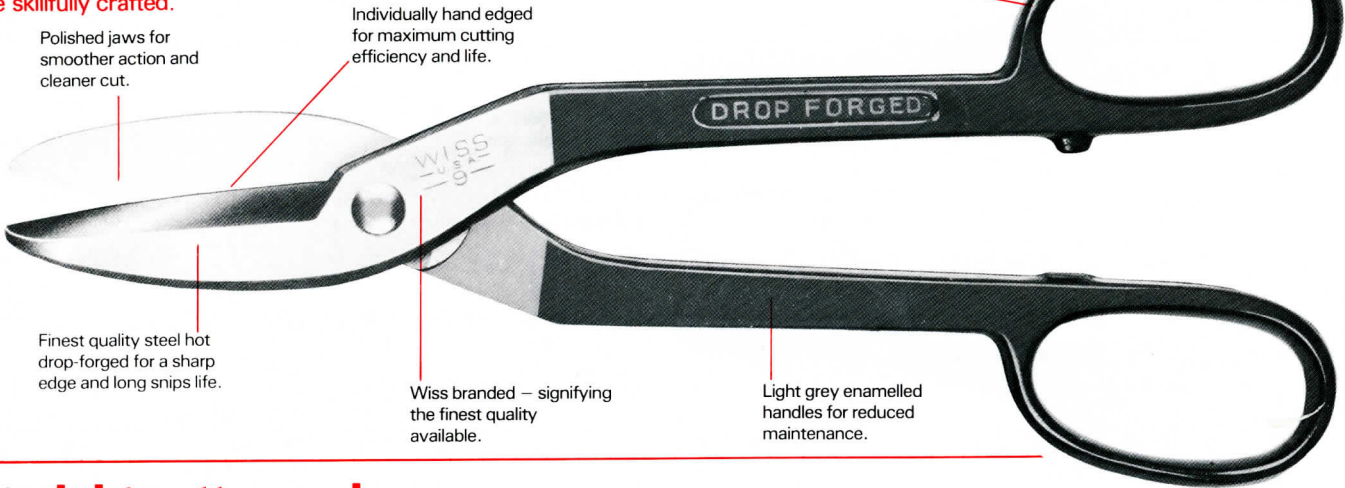


The MPC-3 is a home craftsman's cutting tool for countless uses. It is often used for many jobs for which a layman has traditionally used his tinner's snips, such as cutting screening and hardware cloth, light gauge sheet metal, synthetic shingles, tile gutters and downspouts, carpeting and much more. It boasts many of the labor-saving features found in Metalmaster snips, such as compound action, serrated jaws, safety latch and yellow vinyl comfort grips.

Cat. No.	N/S No.	Length " /mm	Blade " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
MPC-3	58022	9/229	1 3/8/35	20 Gauge Steel (0.035" / 0.89mm)	72/2041	6

# Solid Steel Tinner's snips

These are traditional tools of the sheet metal trades, popular in schools and with the home craftsman. Wiss Tinner's snips are available in both straight pattern and in duckbill combination pattern. A complete selection of sizes is available in both patterns. Wiss Tinner's snips are hot drop-forged of the finest tool steel and are skillfully crafted.



## Straight pattern snips

Straight pattern snips are primarily for straight cuts, although they will cut wide curves when trimming light stock. The inside edge of the blade face is flat and tends to guide the tool along a straight line. This most traditional of tinner's snips is still widely used in the plumbing, heating, air conditioning and roofing trades, as well as being a nearly universal home handyman's tool.



Cat. No.	N/S No.	Overall Length " /mm	Blade Length " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
A-13	58049	7/178	1 3/4/44	23 Gauge (0.025" /0.63mm)	36/1021	6
A-12	58048	8/209	2/51	23 Gauge (0.025" /0.63mm)	48/1361	6
A-11	58045	10/248	2 1/4/57	23 Gauge (0.025" /0.63mm)	84/2381	6
A-10	58042	11/279	2 3/4/63	21 Gauge (0.032" /0.81mm)	120/3402	6
A-9	58039	12 1/2/317	3/76	20 Gauge (0.035" /0.89mm)	168/4763	6

## Duckbill combination pattern snips

Duckbill pattern snips feature the advantage of cutting moderately tight curves to the left or right in light stock as well as cutting straight. Duckbill snips are very popular with the home craftsman and with professional artisans for light duty metal cutting because of their great versatility.



Cat. No.	N/S No.	Overall Length " /mm	Blade Length " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
V-13	58050	7/178	1 3/4/44	23 Gauge (0.025" /0.63mm)	6/170	6
V-10	58043	10/260	2 1/4/57	23 Gauge (0.025" /0.63mm)	84/2381	6
V-19	58051	13/330	3/76	21 Gauge (0.032" /0.81mm)	168/4763	6



## INLAID® Industrial Snips

Wiss Industrial Snips are widely used industrially and have for years set the professional standard for incomparable ruggedness, durability and efficiency.

The superior cutting properties and durability are produced by a special process that offers extraordinary edge properties for high performance.

### Straight pattern



Straight pattern snips are primarily for straight cuts although they will cut wide curves when trimming light gauge stock. The inside face of the blade is flat which tends to guide the tool along a straight cut.

Cat. No.	N/S No.	↔ " /mm	↔ " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
W10	58044	11½/280	2½/63	21 Gauge (0.032"/0.81mm)	22/624	1
W9	58041	12½/317	3/76	20 Gauge (0.035"/0.89mm)	28/794	1
W8	58038	13½/343	3½/89	19 Gauge (0.042"/1.07mm)	38/1021	1
W7	58035	14½/368	4/100	18 Gauge (0.049"/1.22mm)	42/1191	1

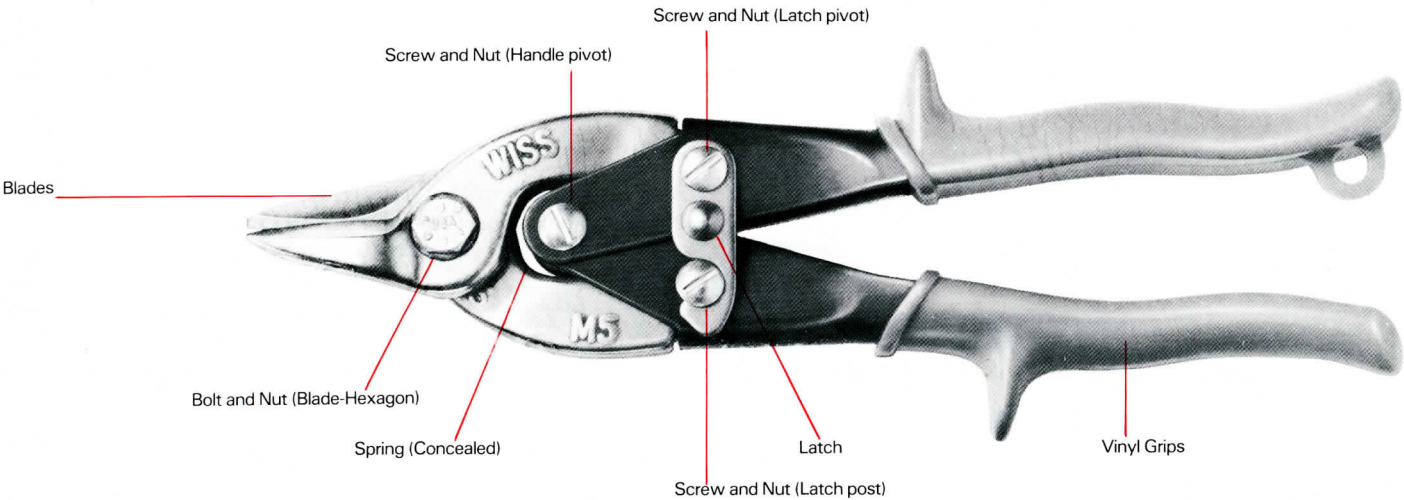
### Bulldog pattern



Bulldog snips provide greater cutting power for notching, nibbling and chopping heavy stock.

Cat. No.	N/S No.	↔ " /mm	↔ " /mm	Recommended max. capacity low carbon cold rolled steel	oz/g	Shelf Pack
W5	58028	16½/419	2½/63	16 Gauge (0.065"/1.65mm)	58/1644	1

# Repair parts for snips and industrial cutting tools



## Metalmaster snips

Cat. No.	Description	Shelf Pack
P400	Replacement <b>Bolt &amp; Nut</b> (Blade Hexagon) for all Metalmaster Series Snips	10
P401	Replacement <b>Screw &amp; Nut</b> (Handle Pivot) for all Metalmaster Series Snips	10
P402	Replacement <b>Screw &amp; Nut</b> (Latch Pivot) for all Metalmaster Series Snips	10
P403	Replacement <b>Screw &amp; Nut</b> (Latch Post) for all Metalmaster Series Snips	10
P404	Replacement <b>Latch</b> for M-1R, M-3R, M-5R	10
P405	Replacement <b>Latch</b> for M-2R	10
P406	Replacement <b>Spring</b> for M-1R, M-3R, M-5R	10
P407	Replacement <b>Spring</b> for M-2R, M-5R	10
P408	Replacement <b>Blades</b> (without Bolt) for M-1R	Pair
P409	Replacement <b>Blades</b> (without Bolt) for M-2R	Pair
P410	Replacement <b>Blades</b> (without Bolt) for M-3R	Pair
P411	Replacement <b>Blades</b> (without Bolt) for M-5R	Pair
P425	Replacement <b>Blades</b> (without Bolt) for M1R-SI	Pair
P426	Replacement <b>Blades</b> (without Bolt) for M2R-SI	Pair

## Tinner's snips

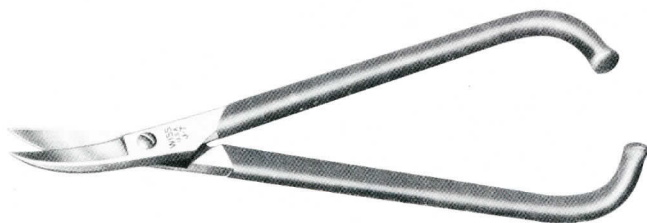
Cat. No.	Description	Shelf Pack
P415	Replacement <b>Bolt &amp; Nut</b> for A-12, A-13	10
P416	Replacement <b>Bolt &amp; Nut</b> for A-11	10
P417	Replacement <b>Bolt &amp; Nut</b> for A-10	10
P418	Replacement <b>Bolt &amp; Nut</b> for A-9	10
P419	Replacement <b>Bolt &amp; Nut</b> for V-13	10
P420	Replacement <b>Bolt &amp; Nut</b> for V-19	10
P421	Replacement <b>Bolt &amp; Nut</b> for V-10	10



## Special Purpose industrial snips and shears

These Wiss hot drop-forged, light metal snips and shears are compact, easy to use, and popular in the electronics and appliance industries. They are also used extensively in crafts. The specially designed handles permit powerful pliers grip with easy opening and closing for fast, accurate operation.

### Light metal-cutting snips – solid steel



J-7 and J-7S solid forged light metal snips are compact, handy snips popular in the electronics and appliance industries. Polished curved and straight blades. Black handles.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
J-7 Curved blades	58032	7/178	1 1/4/32	28/794	6
J-7S Straight blades	58033	7/178	1 1/4/32	28/794	6

### Cable or BX cutters – solid steel



Hot drop-forged. Polished blades with stripping notch for insulated wire. Black handles fitted with red vinyl grips.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
BX-N	58001	7/181	3/4/19	46/1304	6

### Electronics and filament scissors – solid steel



Hot drop-forged. Polished blades with black handles. Coil spring in handle opens blades after each cut.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
605 Straight Blades	58111	4 5/8/127	3/4/19	20/567	6
625 Curved Blades	58112	4 5/8/127	3/4/19	20/567	6

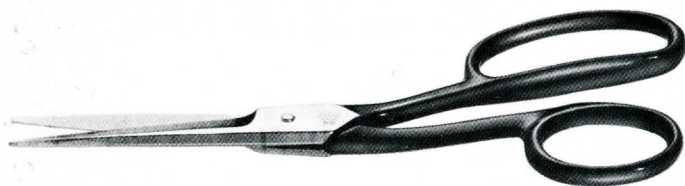
### Belt and leather cutting shears – **INLAID®** blades



Hot drop-forged commercial finished blades; one blade serrated. Patented SET EASY® pivot. Black handles.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
8-BLT	58036	8/222	3/72	64/1814	6

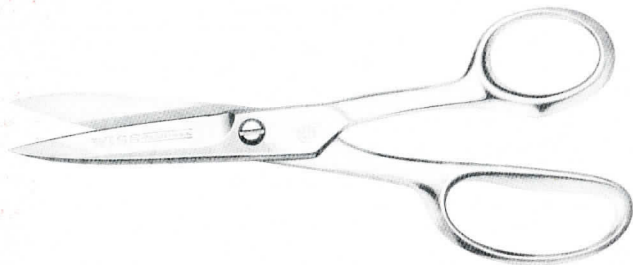
## Rug shears for hooked and candlewick rugs – solid steel



Hot drop-forged. Nickel plated blades. Offset black handles. Double sharp points.

Cat. No.	N/S No.	Blade Length "/mm	Blade Width "/mm	Weight oz/g	Shelf Pack
RS-1	58014	7½/204	2¾/70	28/794	6

## Poultry, auto body and florist shears – **INLAID®** blades



Hot drop-forged. Nickel plated blades and handles; commercial finish. Patented SET EASY® pivot.

Cat. No.	N/S No.	Blade Length "/mm	Blade Width "/mm	Weight oz/g	Shelf Pack
1-DS	58010	8/216	3/76	40/1134	6

## Poultry processing – solid steel



Hot drop-forged. Special ball point for poultry processing. Fully nickel plated blades and handles. Commercial finish. Adjustable nut.

Cat. No.	N/S No.	Blade Length "/mm	Blade Width "/mm	Weight oz/g	Shelf Pack
41DB	58068	8/222	2¾/73	46/1304	6

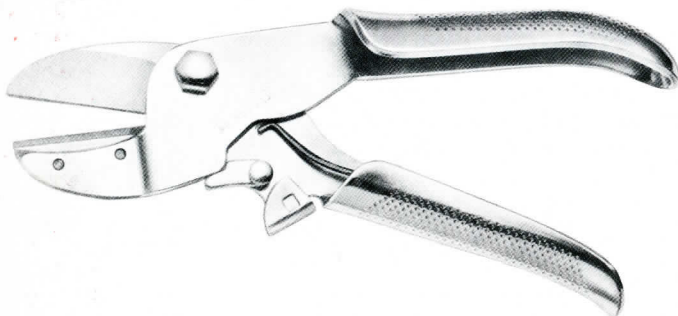
## High leverage shears – solid steel



Hot drop-forged. Serrated blades. Commercial finish. Black handles. Used extensively for wire cutting by florists and dentists.

Cat. No.	N/S No.	Blade Length "/mm	Blade Width "/mm	Weight oz/g	Shelf Pack
2-DA	58016	8/210	2¼/57	54/1531	6

## Anvil blade cutter – solid steel



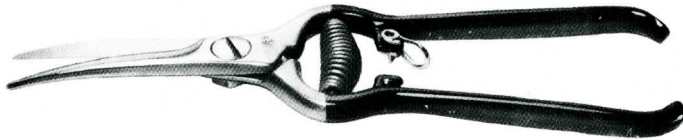
Brass anvil. Hot formed molybdenum steel. Fully nickel plated with pistol grips. Closing latch. Individually bulk packaged.

Cat. No.	N/S No.	Blade Length "/mm	Blade Width "/mm	Weight oz/g	Shelf Pack
908W	58258	8/204	1½/38	312/8845	6


Replacement parts available; see page 19.



## Grape thinning, industrial trimming and orchid shears – solid steel




Hot drop-forged. Heavy pattern. Curved polished blades. Black handles. Closing latch. Adjustable nut. Coil spring in handle opens blades after each cut.

Cat. No.	N/S No.	←L→ "/mm	 "/mm	oz/g	Shelf Pack
C-4A	58023	8/204	2 1/4/57	34/964	6
Curved polished blades					
C-4AS	58024	8/204	2 1/4/57	32/907	6
Straight polished blades					

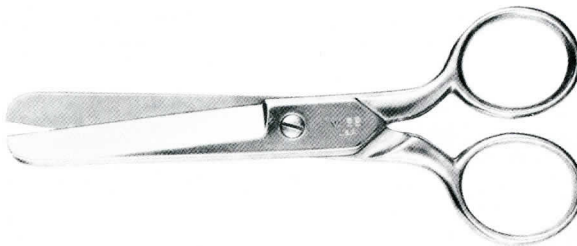
## Citrus fruit clippers – solid steel




Hot drop-forged. Curved polished blades. Rounded points for bruise-free fruit picking. Black handles. Closing latch. Adjustable nut. Coil spring in handle opens blades after each cut.

Cat. No.	N/S No.	←L→ "/mm	 "/mm	oz/g	Shelf Pack
C-1	58009	6 1/2/165	1 1/2/38	28/794	6

## Pocket and safety point scissors




Hot drop-forged. Fully nickel plated. Flat pattern. Double blunt points. Ring handles.

Cat. No.	N/S No.	←L→ "/mm	 "/mm	oz/g	Shelf Pack
064	58070	4/100	1 3/4/44	8/227	6
065	58071	5/127	2 1/4/58	12/340	6
166	58079	6/152	2 3/4/70	20/567	6

## Industrial pocket scissors





Stamped from high quality carbon steel. Nickel plated. Blunt points. Red plastic coated ring handles.

Cat. No.	N/S No.	←L→ "/mm	 "/mm	oz/g	Shelf Pack
1514	58124	4/100	1 1/2/38	8/227	6

## Industrial thread clips Wiss clips – solid steel



Quality hot drop-forged cutlery steel. Self-opening spring action assures fast, effortless cutting. Ideal for cutting thread, ribbon, paper, etc. Fully nickel plated.

Cat. No.	N/S No.	←L→ "/mm	 "/mm	 oz/g	Shelf Pack
TC-1	58015	4 3/8/117	1/26	16/454	6
Sharp points.					
TC-5	58027	4 5/8/117	1/26	16/454	6
Blunt points.					

## Quick-clip® speed cutters



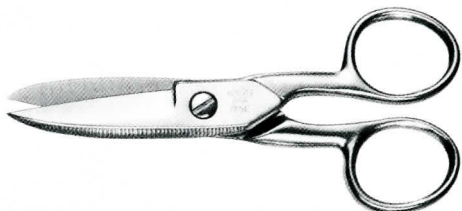
Quick-clip® speed cutters with stainless steel replaceable blades. Positive spring action re-opens blade for fast cutting. Heavy-duty contour designed blue frames.

Cat. No.	N/S No.	Overall Length " /mm	Blade Length " /mm	Weight oz/g	Shelf Pack
1570B	58126	4 3/4 / 121	1 / 26	10 / 284	6
Sharp points					
1571B	58127	4 3/4 / 121	1 / 26	10 / 284	6
Blunt points					

Replacement parts available; see page 19.

## Electrician's scissors – solid steel

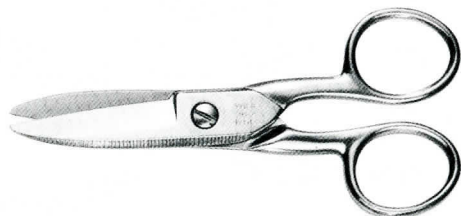
### 175-E



Hot drop-forged. Fully nickel plated. Scraper and file on back edge of blade. Standard Wiss finish. Polished sharp points.

Cat. No.	N/S No.	Overall Length " /mm	Blade Length " /mm	Weight oz/g	Shelf Pack
175-E	58080	5 / 133	1 3/8 / 48	14 / 397	6

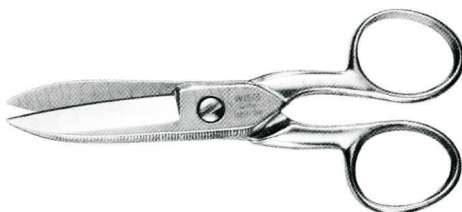
### 175-E3



Same as 175-E but with commercial finish. One blade serrated 1" back from point.

Cat. No.	N/S No.	Overall Length " /mm	Blade Length " /mm	Weight oz/g	Shelf Pack
175-E3	58081	5 / 133	1 3/8 / 48	14 / 397	6

### 175-E5



Hot drop-forged. Fully nickel plated. Commercial finish. Double stripping notch for 19 gauge (.035) and 23 gauge (.022) wire. Scraper and file on back edge of blade. Available in Hang-up vinyl pack order No. 175-E5V.

Cat. No.	N/S No.	Overall Length " /mm	Blade Length " /mm	Weight oz/g	Shelf Pack
175-E5	58082	5 / 133	1 3/8 / 48	16 / 454	6
175-E5V	58218	5 / 133	1 3/8 / 48	16 / 454	6



## Shears and Scissors

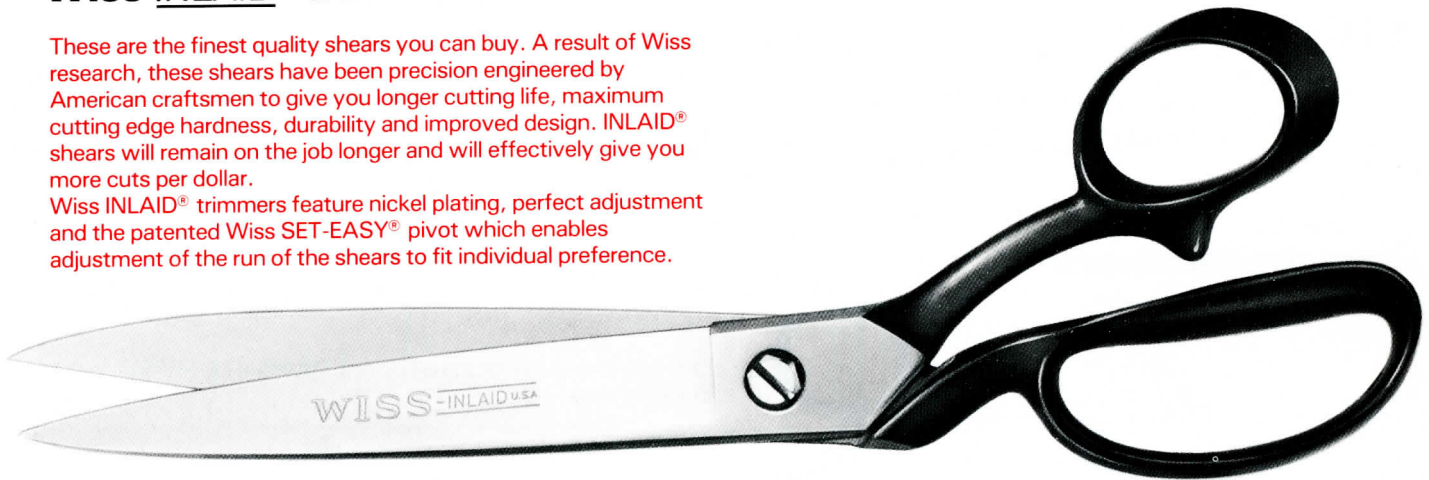
As with other products, the manufacture of shears and scissors begins with the finest quality cutlery steel and depends on the extensive knowledge of metallurgy, the dedication and experience of skilled craftsmen, and the implementation of the strictest quality control procedures have established Wiss shears and scissors as the standard of excellence in the industry. Many progressive and innovative developments—Quick-Clip® Speed Cutters, Serrated Blade Shears, Contura-Lite® premium Lightweight Shears and the new lightweight Wissper-Lite series—have helped to ensure that all Wiss customers are provided with cutting tools that will cut easier, quicker, better and help do a more professional job...every time.

Wiss shears and scissors receive the same attention to detail and quality given to the world-famous range of metal cutting snips. Knife-edge blades ensure an easy cut that helps the blades cut right down to the tip of the point. Products especially designed for particular uses ensure effortless cutting; Needlecraft Scissors, Thread Clips and the wide range of Pinking and Skalloping Shears have been created to meet many requirements including those brought about by the extensive use of modern man made materials.

### Wiss INLAID® trimmers

These are the finest quality shears you can buy. A result of Wiss research, these shears have been precision engineered by American craftsmen to give you longer cutting life, maximum cutting edge hardness, durability and improved design. INLAID® shears will remain on the job longer and will effectively give you more cuts per dollar.

Wiss INLAID® trimmers feature nickel plating, perfect adjustment and the patented Wiss SET-EASY® pivot which enables adjustment of the run of the shears to fit individual preference.



### Bent trimmers

#### Professional Dressmaker's and industrial shears

INLAID®



Hot drop-forged. Nickel plated blades. Patented SET-EASY® pivot. Black handles.

Cat. No.	N/S No.	Length "/mm	Blade Width "/mm	Weight oz/g	Shelf Pack
27	58057	7/178	3 1/2/79	18/510	6
28	58058	8/200	3 1/2/95	34/964	6
29	58059	9/228	4/100	46/1304	6

### Heavy duty industrial shears

INLAID®

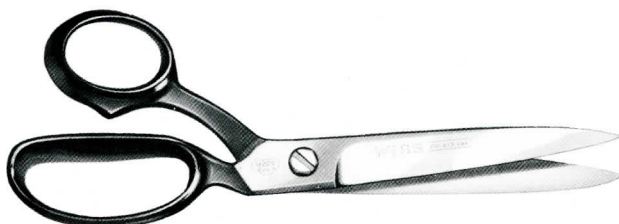


Hot drop-forged. Polished blades. Patented SET-EASY® pivot. Black handles.

Cat. No.	N/S No.	Length "/mm	Blade Width "/mm	Weight oz/g	Shelf Pack
20	58052	10/250	4 1/2/121	70/1985	6
22	58055	12/300	6 1/2/155	108/3062	6

### Left hand model

INLAID®



Hot drop-forged. Polished blades. Patented SET-EASY® pivot. Black handles.

Cat. No.	N/S No.	Length "/mm	Blade Width "/mm	Weight oz/g	Shelf Pack
20LH	58053	10/254	4 1/2/121	78/2211	6

## Upholstery, carpet and drapery shears

**INLAID®**

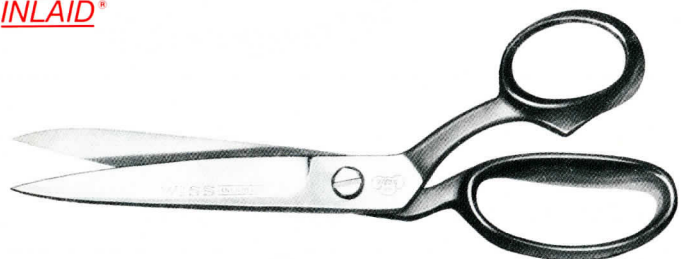


Hot drop-forged. Heavy duty raised blade. Polished blades. Patented SET-EASY® pivot. Black handles.

Cat. No.	N/S No.	Blade Length " / mm	Blade Width " / mm	Weight oz/g	Shelf Pack
20-W	58054	10/254	4 3/4/121	84/2381	6
22-W	58056	12/305	6 1/8/155	124/3515	6

## Carpet, upholstery and fabric shears (knife-edge\*)

**INLAID®**



Hot drop-forged. Polished blades. Patented SET-EASY® pivot. Dark blue handles.

Cat. No.	N/S No.	Blade Length " / mm	Blade Width " / mm	Weight oz/g	Shelf Pack
1225	58121	10/254	4 3/4/121	68/1928	6
1226	58122	12/305	6 1/8/155	104/2948	6

\*One blade is ground to a knife-edge for faster, cleaner, easier cutting of today's synthetic fibers.

## Straight trimmers Industrial shears

**INLAID®**



Hot drop-forged. Nickel plated blades. Patented SET-EASY® pivot. Black handles.

Cat. No.	N/S No.	Blade Length " / mm	Blade Width " / mm	Weight oz/g	Shelf Pack
36	58062	6/152	2 3/8/66	18/510	6
37	58064	7/178	3 1/8/79	24/680	6
38	58066	8/203	3 3/4/95	34/964	6

## Industrial and professional shears

**INLAID®**



Hot drop-forged. Nickel plated blades. Patented SET-EASY® pivot. Black handles.

Cat. No.	N/S No.	Blade Length " / mm	Blade Width " / mm	Weight oz/g	Shelf Pack
39	58067	9/228	4 3/8/112	54/1531	6

## Industrial and professional shears

**INLAID®**



Hot drop-forged. Commercial finished blades. Patented SET-EASY® pivot. Black handles.

Cat. No.	N/S No.	Blade Length " / mm	Blade Width " / mm	Weight oz/g	Shelf Pack
30	58060	10/254	4 3/8/124	72/2041	6

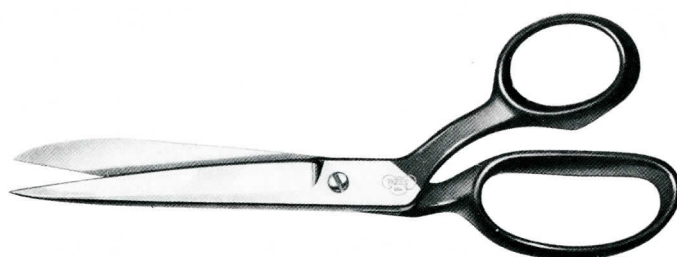


## Solid steel trimmers

Our finest solid steel shears. Hot drop-forged from one piece high carbon solid steel. They are then hardened, ground, edged and adjusted to provide shears of outstanding cutting ability and durability . . . in the true Wiss tradition.



## Solid steel bent trimmers Dressmaker's and industrial shears



Hot drop-forged. Nickel plated blades. Black handles.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
426	58098	6/152	2 5/8/68	20/567	6
427	58099	7/178	3 1/2/79	30/851	6
428	58101	8/200	3 3/4/95	40/1134	6

## Dressmaker's left hand shears



Hot drop-forged. Nickel plated blades. Extra sharp knife edge. Black handles.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
427 1/2-LH	58100	7 1/2/190	3 1/4/82	34/964	6

## Dressmaker's polyester shears (serrated/knife-edge\*)



Hot drop-forged. Nickel plated blades. Serrated blade holds, extra sharp knife-edge cuts. Blue handles.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
6428	58146	8/200	3 3/4/95	40/1134	6

\* One blade serrated to prevent slipping; one blade knife-edge.

Professional model knife-edge dressmaker's shears



Hot drop-forged. Nickel plated. Precision ground true knife-edge blades. Screw and nut pivot for adjustment. Blue handles. Cuts up to 12 thicknesses clear to the point.

Cat. No.	N/S No.	Length " /mm	Blade " /mm	Weight oz/g	Shelf Pack
8XKE	58037	8/200	3 3/8/92	40/1134	6

Solid steel straight trimmers  
Household and industrial shears

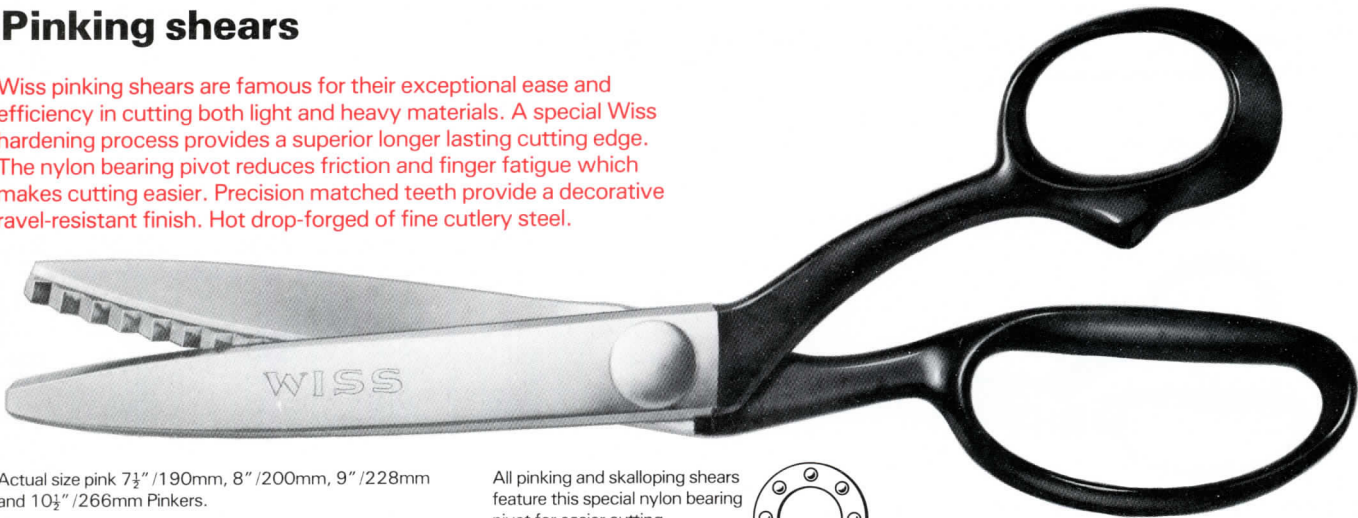


Hot drop-forged. Nickel plated blades. Black handles.

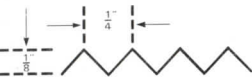
Cat. No.	N/S No.	Length " /mm	Blade " /mm	Weight oz/g	Shelf Pack
436	58102	6/152	2 3/8/66	24/624	6
437	58103	7/178	3 1/8/79	26/737	6
438	58104	8/200	3 3/8/95	38/1077	6

Pinking shears

Wiss pinking shears are famous for their exceptional ease and efficiency in cutting both light and heavy materials. A special Wiss hardening process provides a superior longer lasting cutting edge. The nylon bearing pivot reduces friction and finger fatigue which makes cutting easier. Precision matched teeth provide a decorative ravel-resistant finish. Hot drop-forged of fine cutlery steel.



Actual size pink 7 1/2" /190mm, 8" /200mm, 9" /228mm and 10 1/2" /266mm Pinkers.



All pinking and skalloping shears feature this special nylon bearing pivot for easier cutting. 1/8" /3.17mm.

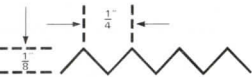


CB-7 Pinking shears



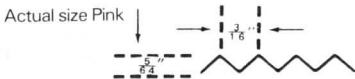
Hot drop-forged. Extra large teeth. Nickel plated blades. Black handles.

Cat. No.	N/S No.	Length " /mm	Blade " /mm	Weight oz/g	Shelf Pack
CB-7	58030	7 1/2/190	2 3/8/64	44/1247	6



Actual size Pink

Left hand Pinking shears Left hand blades – Left hand handles

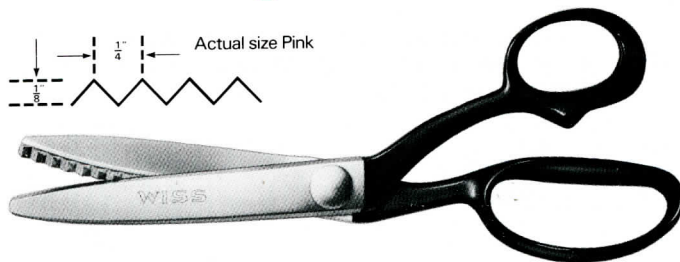


Hot drop-forged. Standard teeth. Nickel plated blades. Black handles.

Cat. No.	N/S No.	Length " /mm	Blade " /mm	Weight oz/g	Shelf Pack
CB-7LH	58031	7 1/2/190	2 3/8/70	44/1247	6



## CB-9 Pinking shears



Hot drop-forged. Extra large teeth. Nickel plated blades. Black handles.

Cat. No.	N/S No.	Length "/mm	Teeth "/mm	Weight oz/g	Shelf Pack
CB-9	58040	9/228	3 1/4/83	50/1418	6

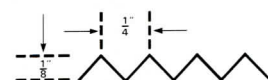
## AA Pinking shears



Hot drop-forged. Professional industrial model. Extra large teeth. Nickel plated blades. Black handles.

Cat. No.	N/S No.	Length "/mm	Teeth "/mm	Weight oz/g	Shelf Pack
AA	58000	10 1/2/266	3 3/8/97	80/2268	6

## Wissper-lite™ Lightweight pinking shears



Satin finish. Nickel plated blades. Comfortable, contoured, steel reinforced, bold blue handles. Extra large teeth.

Cat. No.	N/S No.	Length "/mm	Teeth "/mm	Weight oz/g	Shelf Pack
8PS	58220	8/200	2 3/4/70	16/510	3

## Skalping shears

Exclusive Wiss Skalping shears create a graceful scallop design, ravel-resistant edge. They perform all the functions of pinking shears and are specially hardened to provide a superior, longer lasting cutting edge. Skalping shears also feature the nylon bearing pivot that reduces friction, makes cutting easier and reduces finger fatigue.



Hot drop-forged. Nickel plated blades. Blue handles.

Cat. No.	N/S No.	Length "/mm	Teeth "/mm	Weight oz/g	Shelf Pack
SN-7	58034	7 1/2/190	2 5/8/64	44/1247	6

## Wissper-lite™ Rounded pinker



Lightweight rounded pinker. Satin finish nickel plated blades. Comfortable, contoured, bold blue handles.

Cat. No.	N/S No.	Length "/mm	Teeth "/mm	Weight oz/g	Shelf Pack
8RPS	58259	8/200	2 3/4/70	18/510	3


# Contura-Lite® premium lightweight shears, scissors and speed cutters

Premium lightweight range of quality cutting tools for both the factory and home. Attractive vinyl package.

## Dressmaker's shears




Lightweight knife-edge blade for cutting polyesters, synthetics, natural fabrics in multiple thicknesses. Comfortable, contoured steel reinforced handles in simulated tortoise-shell. Gleaming nickel plated blades.

Cat. No.	N/S No.	↔ " /mm	 " /mm	oz/g	Shelf Pack
3727-T	58132	7/178	3 3/8/79	22/624	6
3728-T	58133	8/200	3 3/8/92	30/851	6
3729-T	58134	9/228	4/162	40/1134	6
3778-T-LH Left hand	58136	8/200	3 3/8/92	30/851	6

## Embroidery and needlecraft scissors




Designed to provide fine cutting points for needlework and embroidery. Needle sharp points. Polished stainless steel blades. Comfortable simulated tortoise-shell steel reinforced ring handles.

Cat. No.	N/S No.	↔ " /mm	 " /mm	oz/g	Shelf Pack
3765-T	58135	4 3/4/121	1 3/8/41	8/227	6

## Quick-Clip® speed cutters



Stainless steel replaceable blades. Positive spring action reopens blades for fast cutting. Heavy duty contour designed simulated tortoise-shell frames.


Cat. No.	N/S No.	↔ " /mm	 " /mm	oz/g	Shelf Pack
1573-T	58128	4 3/4/121	1/26	10/284	6

Replacement parts available, or see page 19.

## Keen-edge® Dressmaker's Shears – Stainless Steel



Lightweight, dressmaker's shears with polished stainless steel blades. Comfortable simulated tortoise-shell handles. Adjustable pivot.

Cat. No.	N/S No.	↔ " /mm	 " /mm	oz/g	Shelf Pack
1128-T	58120	8/200	3 3/8/89	26/737	6



# Wissper-Lite™ lightweight shears and scissors

Bright contemporary styling, dependable Wiss quality and competitively priced. Attractive vinyl package.

## Dressmaker's shears



Satin finish, nickel plated blades. Comfortable contoured bold blue steel reinforced handles.

Cat. No.	N/S No.	Overall Length "/mm	Blade Length "/mm	Weight oz/g	Shelf Pack
3328	58221	8/200	3 1/2/89	16/454	3

## Pinking shears



Satin finish, nickel plated blades. Comfortable contoured bold blue steel reinforced handles. Extra large teeth.

Cat. No.	N/S No.	Overall Length "/mm	Blade Length "/mm	Weight oz/g	Shelf Pack
8PS	58220	8/200	3/76	18/510	3

## Rounded pinker



Satin finish, nickel plated blades. Comfortable contoured bold blue steel reinforced handles. Graceful scallop design. Creates ravel-resistant edge.

Cat. No.	N/S No.	Overall Length "/mm	Blade Length "/mm	Weight oz/g	Shelf Pack
8RPS	58259	8/200	3/76	18/510	3

## Utility shears



Satin finish, nickel plated blades. Comfortable contoured bold blue steel reinforced handles. Belongs in kitchens, offices, workrooms and hobby shops.

Cat. No.	N/S No.	Overall Length "/mm	Blade Length "/mm	Weight oz/g	Shelf Pack
3308	58222	7/200	3/76	14/397	3

## Needlecraft scissors



Satin finish, stainless steel blades. Sharp points. Comfortable bold blue steel reinforced ring handles.

Cat. No.	N/S No.	Overall Length "/mm	Blade Length "/mm	Weight oz/g	Shelf Pack
3365	58223	4 3/4/121	1 3/8/41	4/113	3

## Quick-snip™



Stainless steel blades. Bold blue frame.

Cat. No.	N/S No.	Overall Length "/mm	Blade Length "/mm	Weight oz/g	Shelf Pack
3373	58219	4 3/4/120	1/26	6/170	3

## Sewing and embroidery scissors

3½" / 89mm to 6" / 152mm in length with two pointed blades or one sharp and one rounded point. Sewing scissors are ideal for light cutting jobs such as cutting light material, darning, ripping and millinery work.

Embroidery scissors are specially designed for intricate cutting, embroidery and fine needlework.

### Tailor's points

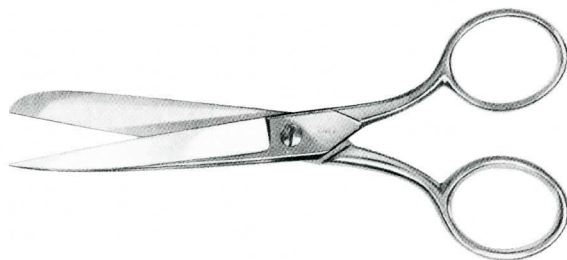
Professional model, extra sturdy



Hot drop-forged. Nickel plated blades. Double sharp points. Black handles.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
75	58072	5/130	2/51	12/340	6

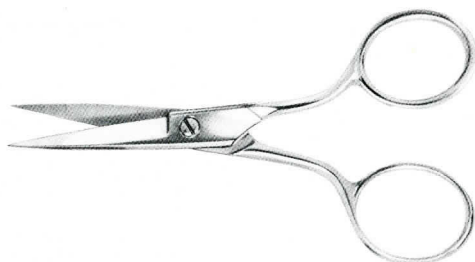
### Sewing scissors



Hot drop-forged. Fully nickel plated. 1 sharp and 1 blunt point. Flat pattern. Ring handles. Attractive vinyl-package.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
W715	58113	5/134	2¼/57	10/284	6
W716	58114	6/156	2¼/70	16/454	6

### Sewing and embroidery scissors



Hot drop-forged. Fully nickel plated. Double sharp points. Flat pattern. Ring handles. Attractive vinyl package.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
763½	58115	3½/89	1¼/31	6/170	6
764	58116	4/101	1¾/35	8/227	6
765	58117	5/127	2/51	10/284	6
766	58118	6/152	2½/64	16/454	6

### Kitchen/household shears

These versatile shears are ideal for the many miscellaneous jobs in and around the home – preparing food, cracking nuts, opening jars. They cut everything including twine and rope, cardboard, light metal and wire screens.

Hot drop-forged. Fully nickel plated with colorful baked enamel handles. One blade serrated. Attractive vinyl package.



Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
KSR Red	58003	8/200	2⅝/66	40/1134	6
KSY Yellow	58004	8/200	2⅝/66	40/1134	6
KSG Green	58002	8/200	2⅝/66	40/1134	6



## Barber's shears



Wiss Barber shears will remain sharp while cutting hair quickly and cleanly. Wiss Barber shears are precision ground cutting instruments made of fine cutlery steel. Wiss solid steel. Hot drop-forged with nickel plated shanks and handles. Polished blades. Attractive vinyl package.

Cat. No.	N/S No.	Length "/mm	Blade "/mm	Weight oz/g	Shelf Pack
467½	58105	7½/197	3½/79	20/567	6

## Replacement and repair parts

### 908W Anvil pruner

Cat. No.	N/S No.	Description	Shelf Pack
P4113	58212	908W — spring	10
P19153	58210	Anvil with screw	10
P22229	58211	Cutting blade with latch	1

### Quick-Clip® thread clips

Cat. No.	N/S No.	Description	Shelf Pack
9317	58178	Repair kit for 1570B and 1573T sharp points—includes 1 pair of blades, 4 blade screws, 1 spring, 1 stop screw.	1
9318	58179	Repair kit for 1571B blunt points—includes 1 pair of blades, 4 blade screws, 1 spring, 1 stop screw.	1
9328	58180	Replacement blades for 1570B and 1573T sharp points, packed 10 pair of blades and 40 blade screws.	10
9329	58181	Replacement blades for 1571B blunt points, packed 10 pair of blades and 40 blade screws.	10

## Wissper-lite™ gift sets



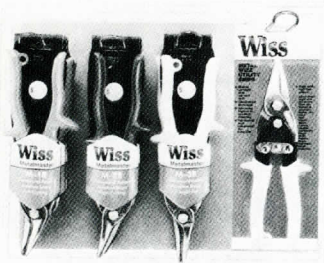
Cat. No.	N/S No.	Description
GS-C	58262	3328, 3373. In attractive gift package.
GS-S	58263	3328, 3365. In attractive gift package.
GS-3	58260	3328, 3365, 3373. In attractive gift box.
GS-4	58261	3328, 3365, 3373, 8PS. In attractive gift box.



## Wiss Modules

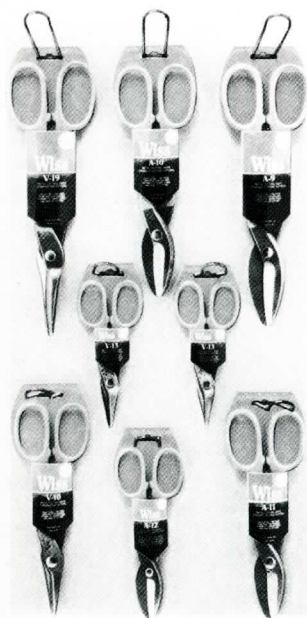
The 4 modules available are for use with the Cooper Tool Wall. For additional information regarding the Cooper module system, see the last 2 pages of this catalog.

### TW-46 (58226) Metalmaster® module



Size: 16" / 406mm x 13" / 330mm (C).  
Shipping Weight: 10 lb/4.53 Kg.  
Contains: Two (2) Each M-1R, M-2R, M-3R, MPC-3  
TW-46A (58227) refill assortment only.

### TW-47 (58228) Tinner's snips module



Size: 16" / 406mm x 29" / 737mm (A)  
Shipping weight: 23 lb/10.43 Kg.  
Contains: Two (2) Each V-19, V-10, V-13, A-9, A-10, A-11, A-12, A-13.  
TW-47A (58229) refill assortment only.

### TW-49 (58230) Scissors and shears module



Size: 16" / 406mm x 16" / 406mm (B).  
Shipping weight: 7 lb/3.17 Kg.  
Contains: Two (2) Each 3728T, 3765T, 1573T, 1128T, 428, KSR.  
TW-49A (58231) refill assortment only.

### TW-112 (58234) Scissors and shears module



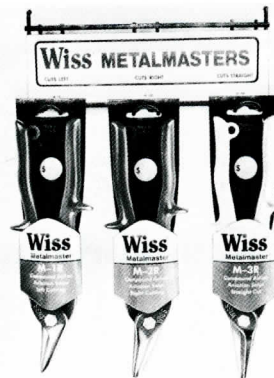
Size: 16" / 406mm x 16" / 406mm (B).  
Shipping weight: 6 lb/2.72 Kg.  
Contains: Two (2) Each 3728T, 3765T, 1573T, 437, 175E5V.  
TW-112A (58235) refill assortment only.

### Merchandisers SH-5 (58026) Shears and scissors merchandise



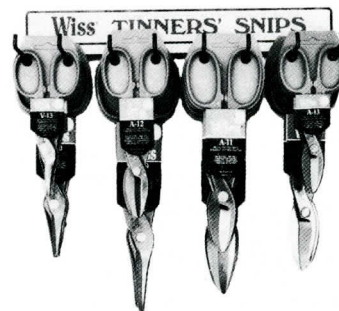
Size: 19" / 483mm x 12" / 305mm.  
Shipping weight: 3 lb 13 oz/1.73 Kg.  
Contains: Two (2) Each 3728-T, 3765-T, 1573-T, 467½, KSR.

### MM-36 (58063) Metalmaster® snips merchandise



Size: 11" / 279mm x 12¼" / 311 mm.  
Shipping weight: 6 lb/2.72 Kg.  
Contains: Two (2) Each M-1R, M-2R, M-3R.  
MM-36A (58204) refill assortment only.

### 7407 (58152) Tinner's snips merchandise



Size: 10" / 254mm to 17¼" / 438mm x 16" / 406mm.  
Shipping weight: 18 lb/8.16 Kg.  
Contains: Two (2) Each V-19, V-10, V-13, A-9, A-10, A-11, A-12, A-13.

### SC-106 (58078) Shears and scissors merchandise



Size: 20" / 508mm x 12¾" / 324mm.  
Shipping weight: 5 lb/2.27 Kg.  
Contains: Two (2) Each 3727T, 3728T, 3729T, 3765T, 1573T, CB7.



**WL-5 (58224)**  
**Wissper-Lite™**  
**merchandiser**



Size: 18½" / 470mm x 11" / 279mm x 11" / 279mm.  
 Shipping weight: 12 lb / 5.44 Kg.  
 Contains: Six (6) Each 3328, 8PS, 3308, 3365, 3373.

**SC-11 (58046)**  
**Shears and scissors**  
**merchandiser**



Designed for the notions trade.  
 Safe, secure, plexiglass sliding doors.  
 Size: 25" / 635mm x 23" / 584mm x 10" / 254mm.  
 Shipping weight: 22 lb 8oz / 10.21 Kg.  
 Contains: Three (3) Each 3728T, 3778T-LH, 3765T, 3727T, 1128T, 1573T, 427, CB7, 764, 8XKE, 437.

**SH-11 (58047)**  
**Shears and scissors**  
**merchandiser**



Designed especially for the Hardware trade.  
 Safe, secure, plexiglass sliding doors.  
 Size: 25" / 635mm x 23" / 584mm x 10" / 254mm.  
 Shipping weight: 22 lb 8 oz / 10.21 Kg.  
 Contains: Three (3) Each 3728T, 467½, 3765T, 3727T, 1128T, 1573T, 427, CB7, 8XKE, KSR, 764.

**WSC-11 (58275)**  
**Shears and scissors**  
**merchandiser**



Designed for the notions trade.  
 Safe, secure, plexiglass sliding glass doors.  
 Contains: Three (3) Each 3328, 3365, 3373, 8PS, 8RPS, 3728, 3727, 3778, 8XKE, 427, 764.

**Floor displays**



**HF-16 (58065)**

Hardware store selection. Safe, secure plexiglass door keeps merchandise clean.  
 Size: 20" / 508mm x 40" / 1016mm x 11½" / 292mm.  
 Shipping weight: 61 lb / 27.67 Kg.  
 Contains: Three (3) Each 3728T, 3727T, 3765T, 1573T, 1128T, 8XKE, 428, 427, 437, 764, W715, CB7, 467½, KSR, 3778T-LH, SN-7.

**NF-16 (58208)**

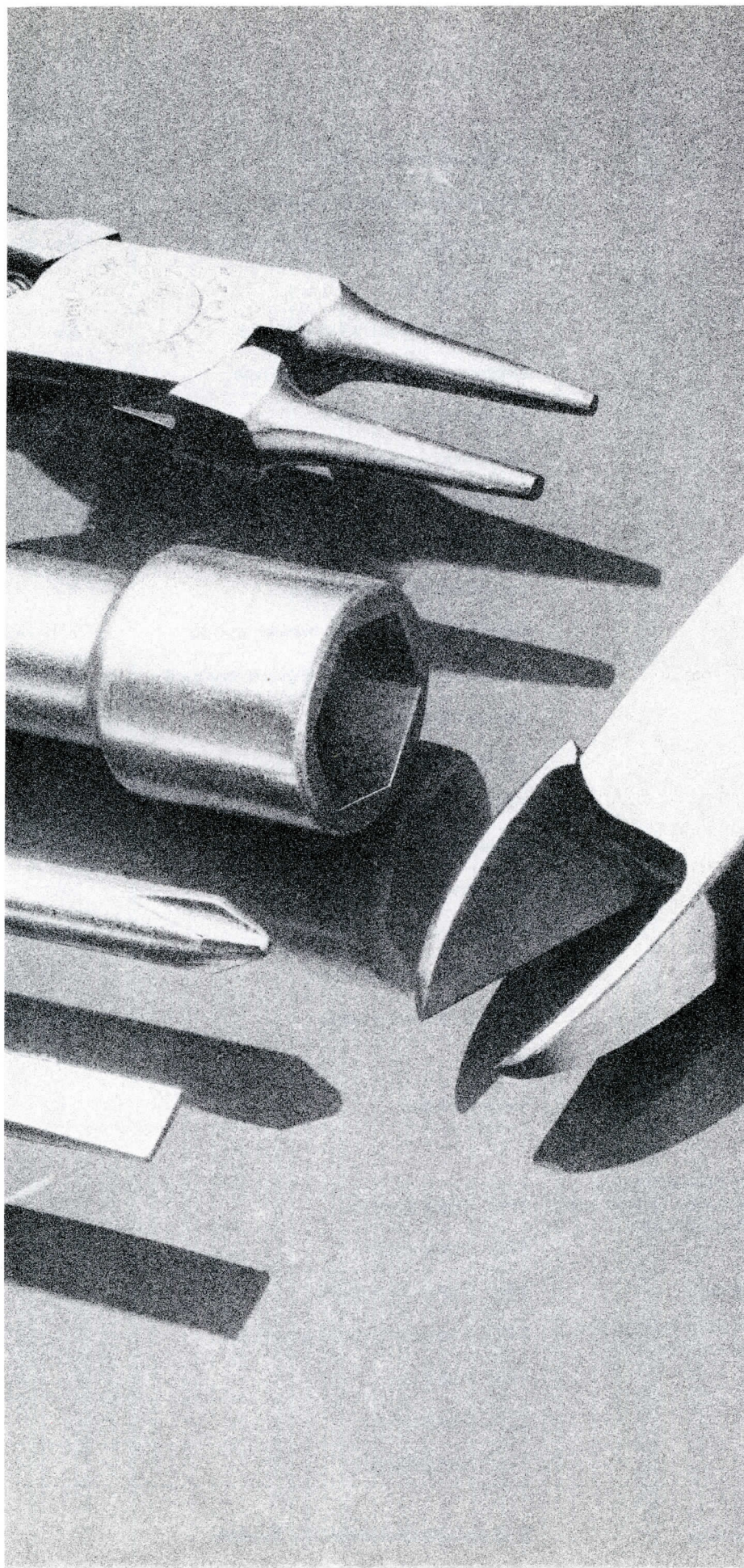
Notions department selection. Safe, secure plexiglass door keeps merchandise clean.  
 Size: 20" / 508mm x 50" / 1016mm x 11½" / 292mm.  
 Shipping Weight: 61 lb / 27.67 Kg.  
 Contains: Three (3) Each 3728T, 3727T, 3729T, 3778T-LH, 3765T, 1573T, 1128T, 8XKE, 428, 427, 437, 764, W715, CB7, SN7, CB9.

# Wiss Numerical Index

**W** is an abbreviation for Wiss Scissors and Shears.  
**WS** is an abbreviation for Wiss Snips.

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		W-10	WS5





<sup>®</sup>  
**Xcelite**

**CooperTools™**



# Xcelite

Xcelite founded in 1921, produces high quality tools for professional use. They are known throughout the electronics industry for a comprehensive range of screwdrivers of various sizes and types, nutdrivers, convertible nutdriver/screwdriver sets, interchangeable blade drivers, service tools and kits, pliers and cutters, shears, snips, wire strippers and wrenches. Many of the products are in kit form to appeal to the DIY and hobby markets.

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### Xcelite packaging

Certain tools are available in a special, vacuum packed hanging display package (for examples, see Xcelite modules). To order, add suffix "V." Example R184V is carded, R184 is not carded.

### Note:

N/S No. is an abbreviation for NIDA/SIDA Number.

Please quote NIDA/SIDA number (N/S No.) if shown with catalog number to help expedite the entry and shipment of your order.

### Key to symbols

 Blade diameter

 Blade length

 Handle dimensions

 Overall length of screwdrivers

 Point size

 Hex diameter

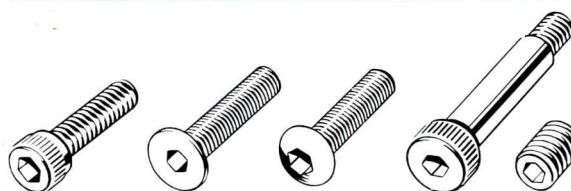
 Overall length



# Xcelite tool selection guide

Proper Xcelite driver for popular size fasteners

## Allen type hex socket screws



**Xcelite driver  
or blade**

Cap screws 1960 series	1936 series	Flat head cap screws	Button head cap screws	Shoulder screws	Set screws	Catalog number	Hex size (inches)
Nominal screw sizes							
—	—	—	—	—	0	P18	.028
—	—	0	0	—	1 & 2	P19	.035
0	0 & 1	1 & 2	1 & 2	—	3 & 4	LN-20, P20, 99-20	.050
1	2	3 & 4	3 & 4	—	5 & 6	LN-21, P21, 99-21	$\frac{1}{16}$
2 & 3	3 & 4	5 & 6	5 & 6	—	8	LN-22, P22, 99-22	$\frac{5}{64}$
4 & 5	5 & 6	8	8	—	10	LN-23, P23, 99-23	$\frac{3}{32}$
6	—	—	—	—	—	LN-764, P764, 99-764	$\frac{7}{64}$
—	8	10	10	$\frac{1}{4}$	$\frac{1}{4}$	LN-24, P24, 99-24	$\frac{1}{8}$
8	—	—	—	—	—	LN-964, 99-964	$\frac{9}{64}$
10	10 & 12	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	LN-25, 99-25	$\frac{5}{32}$
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	LN-26, 99-26	$\frac{3}{16}$
—	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	—	$\frac{7}{16}$	LN-27	$\frac{7}{32}$
$\frac{5}{16}$	—	$\frac{7}{16}$	—	$\frac{1}{2}$	$\frac{1}{2}$	LN-28	$\frac{1}{4}$

Notes:

P Series = midget drivers in PS89 sets.

LN Series = fixed handle drivers. Same size available also in LN-20BP through LN-28BP ballpoint fixed handle drivers.

99 Series = interchangeable blades. Same sizes available also in 99-20BP through 99-26BP ballpoint blades.

See also offset ratchet screwdriver sets.

## Phillips type screws



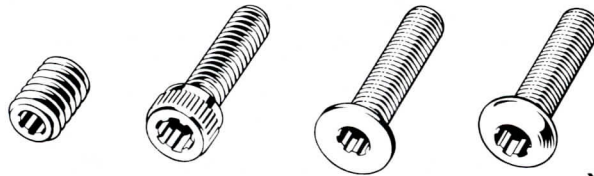
**Xcelite driver  
or blade**

Wood screw		Machine screw		Sheet metal		Point size	Blade diameter (inches)
Flat oval	Round	Flat oval binding	Round fillister	Truss brazier button	Flat, round oval, stove binding		
0.1	0.1	0.1	0.1	—	—	0	$\frac{1}{8}$
2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4, 5	2, 3, 4	1	$\frac{3}{16}$
5, 6, 7, 8, 9	5, 6, 7, 8, 9, 10	5, 6, 8, 10	5, 6, 8, 10	6, 8, 10	5, 6, 7, 8, 10	2	$\frac{1}{4}$
10, 12 14, 16	12, 14 16	12, $\frac{1}{4}$ "	12, $\frac{1}{4}$ " $\frac{5}{16}$ "	12, $\frac{1}{4}$ "	12, 14	3	$\frac{5}{16}$
18, 20 24	18, 20 24	$\frac{5}{16}$ " , $\frac{3}{8}$ " $\frac{7}{16}$ " , $\frac{1}{2}$ "	$\frac{3}{8}$ " , $\frac{7}{16}$ " $\frac{1}{2}$ "	$\frac{5}{16}$ " , $\frac{3}{8}$ " $\frac{7}{16}$ " , $\frac{1}{2}$ "	—	4	$\frac{3}{8}$

Note:

See fixed handle drivers; compact convertible sets; series 99 sets and interchangeable blades; combination reversible drivers, kits, and blades, offset ratchet screwdriver sets.

## Bristol type multiple-spline socket screws



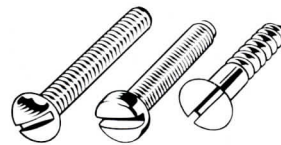
**Xcelite blade**

Set screws	Cap screws 1960 series	Flat head	Button head	Catalog number	Tip size (inches)	Number of flutes
No. 2–No. 3	—	No. 0	No. 0	99–61	.048	6
No. 4	No. 0	No. 1–No. 2	No. 1–No. 2	99–62	.060	6
No. 5	—	—	—	99–63	.069	4
No. 5–No. 6	No. 1	No. 3–No. 4	No. 3–No. 4	99–64	.072	6
No. 6	—	—	—	99–65	.076	4
No. 8	No. 2–No. 3	No. 5–No. 6	No. 5–No. 6	99–66	.096	6
No. 10	No. 4–No. 5	No. 8	No. 8	99–67	.111	6
$\frac{1}{4}$ "	—	No. 10	No. 10	99–68	.145	6
$\frac{5}{16}$ "	No. 10	$\frac{1}{4}$ "	$\frac{1}{4}$ "	99–69	.183	6

Note: See 99PS-60 compact interchangeable blade set and series 99 blades.

## Slotted screws

## Hex head screws



**Xcelite driver  
or blade**

Screw size	Tip size (inches)
0	$\frac{3}{32}$
1	$\frac{3}{32}$
2	$\frac{1}{8}$
3	$\frac{5}{32}$
4	$\frac{3}{16}$
5	$\frac{3}{16}$
6	$\frac{1}{4}$
7	$\frac{1}{4}$
8	$\frac{5}{16}$
9	$\frac{5}{16}$
10	$\frac{5}{16}$
12	$\frac{3}{8}$
14	$\frac{3}{8}$
16	$\frac{7}{8}$
18	$\frac{7}{8}$

Note: See round and square blade fixed handle drivers, compact convertible sets, series 99 kits and interchangeable blades, combination reversible blade drivers and kits, offset ratchet screwdriver sets.



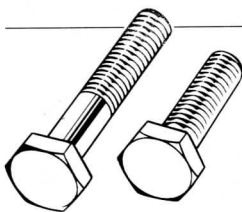
**Xcelite nutdriver  
or blade**

Screw size	Screw diameter (inches)	Number*	Hex opening (inches)
1	.073	4	$\frac{1}{8}$
2	.086	4	$\frac{1}{8}$
3	.099	6	$\frac{3}{16}$
4	.112	6	$\frac{3}{16}$
5	.125	6	$\frac{3}{16}$
6	.138	8	$\frac{1}{4}$
7	.151	8	$\frac{1}{4}$
8	.164	8	$\frac{1}{4}$
10	.190	10	$\frac{5}{16}$
12	.216	10	$\frac{5}{16}$
$\frac{1}{4}$	.250	12	$\frac{3}{8}$
$\frac{5}{16}$	.312	16	$\frac{1}{2}$
$\frac{3}{8}$	.375	18	$\frac{9}{16}$

\* See fixed handle drivers catalog numbers with or without prefix P, HS, A or AA, magnetic nutdrivers with suffix M; and series 99 blades with prefix 99.



## Hex head bolts and hex head cap screws



**Xcelite nutdriver or blade**

Bolt or screw size	Number*	Hex opening (inches)
$\frac{1}{4}$	14	$\frac{7}{16}$
$\frac{5}{16}$	16	$\frac{1}{2}$
$\frac{3}{8}$	18	$\frac{9}{16}$
$\frac{7}{8}$	20	$\frac{5}{8}$
$\frac{1}{2}$	24	$\frac{3}{4}$

\*See fixed handle drivers catalog numbers with or without prefix P, HS, A, or AA; Magnetic nutdrivers with suffix M; and series 99 blades with prefix 99.

## Clutch head screws



**Xcelite driver or blade**

Screw size	Tip size (inches)
2	$\frac{3}{32}$
3	$\frac{3}{32}$
4	$\frac{3}{32} - \frac{1}{8}$
6	$\frac{1}{8} - \frac{5}{32}$
8	$\frac{5}{32}$
10	$\frac{5}{32} - \frac{3}{16}$
12	$\frac{3}{16} - \frac{1}{4}$
14, $\frac{1}{4}$	$\frac{1}{4}$
$\frac{5}{16}$	$\frac{5}{16}$
$\frac{3}{8}$	$\frac{5}{16}$

Note: See fixed handle drivers, series 99 interchangeable blades, and combination reversible tools.

## Hex nuts

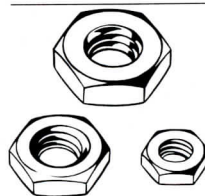


**Xcelite nutdriver or blade**

Nut size	Number*	Hex opening (inches)
$\frac{1}{4}$	14	$\frac{7}{16}$
$\frac{5}{16}$	16	$\frac{1}{2}$
$\frac{3}{8}$	18	$\frac{9}{16}$
$\frac{7}{16}$	22	$\frac{11}{16}$
$\frac{1}{2}$	24	$\frac{3}{4}$

\*See fixed handle drivers catalog numbers with or without prefix P, HS, A, or AA; magnetic nutdrivers with suffix M; and series 99 blades with prefix 99.

## Hex machine screw nuts

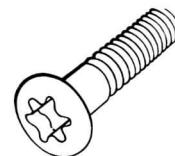


**Xcelite nutdriver or blade**

Nut size	For screw diameter	Number*	Hex opening (inches)
0	.060	5	$\frac{5}{32}$
1	.073	5	$\frac{5}{32}$
2	.086	6	$\frac{3}{16}$
3	.099	6	$\frac{3}{16}$
4	.112	8	$\frac{1}{4}$
5	.125	10	$\frac{5}{16}$
6	.138	10	$\frac{5}{16}$
8	.164	11	$\frac{11}{32}$
10	.190	12	$\frac{3}{8}$
12	.216	14	$\frac{7}{8}$
$\frac{1}{4}$	.250	14	$\frac{7}{8}$
$\frac{5}{16}$	.312	18	$\frac{9}{16}$
$\frac{3}{8}$	.375	20	$\frac{5}{8}$

\*See fixed handle drivers catalog numbers with or without prefix P, HS, A or AA, magnetic nutdrivers with suffix M; and series 99 blades with prefix 99.

## Torx screws



**Xcelite driver**




Torx size	Tip size (inches)
T10	XTD-10
T15	XTD-15
T20	XTD-20
T25	XTD-25
T27	XTD-27
T30	XTD-30

## Screwdrivers for slotted screws

Except where otherwise noted, all blades are AISI 6150 chrome vanadium steel, finished in bright nickel chrome. Round-blade, fixed-handle screwdrivers can be furnished (optionally, at extra cost) with blades which have been insulated by plastic dip-coating.

### Pocket clip style – round blade



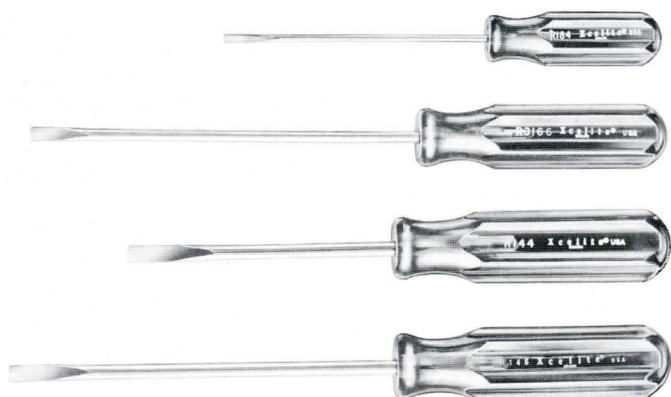
Cat. No.	N/S No.	 inches	 /mm	 /mm	Shelf Pack
R3322	48565	$\frac{3}{32}$ "	2/51	4 $\frac{1}{4}$ /108	12
R3322V	48566	$\frac{3}{32}$ "	2/51	4 $\frac{1}{4}$ /108	12
R3323	48567	$\frac{3}{32}$ "	3/76	5 $\frac{1}{4}$ /133	12
R3324	48568	$\frac{3}{32}$ "	4/102	6 $\frac{1}{4}$ /159	12
R181	48545	$\frac{1}{8}$ "	2/51	4 $\frac{1}{4}$ /108	12
R181V	48546	$\frac{1}{8}$ "	2/51	4 $\frac{1}{4}$ /108	12
R183	48548	$\frac{1}{8}$ "	3/76	5 $\frac{1}{4}$ /133	6




### Display cards

181–20 (48367) Consists of 20 each R181 pocket clip screwdrivers on display card.

332–20 (48368) Consists of 20 each R3322 pocket clip screwdrivers on display card.

### Regular – round blade



Cat. No.	N/S No.	 inches	 /mm	 /mm	Shelf Pack
R182	48547	$\frac{1}{8}$ "	2/51	4 $\frac{5}{8}$ /117	6
R184	48549	$\frac{1}{8}$ "	4/102	6 $\frac{3}{8}$ /168	6
R184V	48550	$\frac{1}{8}$ "	4/102	6 $\frac{3}{8}$ /168	6
R186	48551	$\frac{1}{8}$ "	6/152	8 $\frac{5}{8}$ /219	6
R186V	48552	$\frac{1}{8}$ "	6/152	8 $\frac{5}{8}$ /219	6
R188	48553	$\frac{1}{8}$ "	8/203	10 $\frac{3}{8}$ /270	6
R188V	48554	$\frac{1}{8}$ "	8/203	10 $\frac{3}{8}$ /270	6
R1810	48557	$\frac{1}{8}$ "	10/254	12 $\frac{3}{8}$ /321	6
R5323	48573	$\frac{5}{32}$ "	3/76	5 $\frac{3}{8}$ /143	6
R5324	48574	$\frac{5}{32}$ "	4/102	6 $\frac{3}{8}$ /168	6
R5324V	48692	$\frac{5}{32}$ "	4/102	6 $\frac{3}{8}$ /168	6
R5325	48575	$\frac{5}{32}$ "	5/127	7 $\frac{3}{8}$ /194	6
R5325V	48576	$\frac{5}{32}$ "	5/127	7 $\frac{3}{8}$ /194	6
R5328	48577	$\frac{5}{32}$ "	8/203	10 $\frac{3}{8}$ /270	6
R3163	48558	$\frac{3}{16}$ "	3/76	6 $\frac{3}{8}$ /168	6
R3163V	48559	$\frac{3}{16}$ "	3/76	6 $\frac{3}{8}$ /168	6
R3164	48560	$\frac{3}{16}$ "	4/102	7 $\frac{3}{8}$ /194	6
R3164V	48561	$\frac{3}{16}$ "	4/102	7 $\frac{3}{8}$ /194	6
R3166	48562	$\frac{3}{16}$ "	6/152	9 $\frac{5}{8}$ /244	6
R3166V	48563	$\frac{3}{16}$ "	6/152	9 $\frac{5}{8}$ /244	6
R3168	48564	$\frac{3}{16}$ "	8/203	11 $\frac{3}{8}$ /295	6
R31610	48578	$\frac{3}{16}$ "	10/254	13 $\frac{3}{8}$ /346	6
R144	48540	$\frac{1}{4}$ "	4/102	8 $\frac{1}{8}$ /206	6
R144V	48541	$\frac{1}{4}$ "	4/102	8 $\frac{1}{8}$ /206	6
R146	48542	$\frac{1}{4}$ "	6/152	10 $\frac{1}{8}$ /257	6
R146V	48543	$\frac{1}{4}$ "	6/152	10 $\frac{1}{8}$ /257	6
R148	48544	$\frac{1}{4}$ "	8/203	12 $\frac{1}{8}$ /308	6
R1410	48556	$\frac{1}{4}$ "	10/254	14 $\frac{1}{8}$ /359	6
R5164	48569	$\frac{5}{16}$ "	4/102	8 $\frac{1}{2}$ /216	6
R5164V	48691	$\frac{5}{16}$ "	4/102	8 $\frac{1}{2}$ /216	6
R5166	48570	$\frac{5}{16}$ "	6/152	10 $\frac{1}{2}$ /267	6
R5166V	48571	$\frac{5}{16}$ "	6/152	10 $\frac{1}{2}$ /267	6
R5168	48572	$\frac{5}{16}$ "	8/203	12 $\frac{1}{2}$ /317	6
R388	48555	$\frac{3}{8}$ "	8/203	12 $\frac{1}{2}$ /317	6

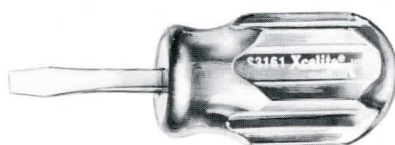





## Round blade screwdriver set



SDR-11 (48610) contains 5 round blade screwdrivers for slotted screws. Catalog Nos. R182, R5324, R3166, R144 and R5166.




## Stubby – square blade



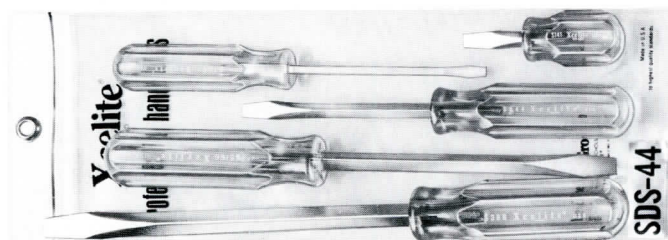
Cat. No.	N/S No.	 inches	 /mm	 /mm	Shelf Pack
S3161	48592	$\frac{3}{16}$ "	1 $\frac{1}{4}$ /32	2 $\frac{3}{4}$ /70	6
S3161V	48694	$\frac{3}{16}$ "	1 $\frac{1}{4}$ /32	2 $\frac{3}{4}$ /70	6
S141	48585	$\frac{1}{4}$ "	1 $\frac{1}{4}$ /32	3 $\frac{1}{4}$ /83	6
S141V	48693	$\frac{1}{4}$ "	1 $\frac{1}{4}$ /32	3 $\frac{1}{4}$ /83	6
S5161	48601	$\frac{5}{16}$ "	1 $\frac{1}{4}$ /32	3 $\frac{1}{4}$ /83	6
S5161V	48695	$\frac{5}{16}$ "	1 $\frac{1}{4}$ /32	3 $\frac{1}{4}$ /83	6

## Regular – square blade



Cat. No.	N/S No.	 inches	 /mm	 /mm	Shelf Pack
S3163	48593	$\frac{3}{16}$ "	3/76	6 $\frac{5}{8}$ /168	6
S3163V	48594	$\frac{3}{16}$ "	3/76	6 $\frac{5}{8}$ /168	6
S3164	48595	$\frac{3}{16}$ "	4/102	7 $\frac{5}{8}$ /194	6
S3164V	48596	$\frac{3}{16}$ "	4/102	7 $\frac{5}{8}$ /194	6
S3166	48597	$\frac{3}{16}$ "	6/152	9 $\frac{5}{8}$ /244	6
S3166V	48598	$\frac{3}{16}$ "	6/152	9 $\frac{5}{8}$ /244	6
S3168	48599	$\frac{3}{16}$ "	8/203	11 $\frac{5}{8}$ /295	6
S144	48586	$\frac{1}{4}$ "	4/102	8 $\frac{1}{8}$ /206	6
S144V	48587	$\frac{1}{4}$ "	4/102	8 $\frac{1}{8}$ /206	6
S146	48588	$\frac{1}{4}$ "	6/152	10 $\frac{1}{8}$ /257	6
S146V	48589	$\frac{1}{4}$ "	6/152	10 $\frac{1}{8}$ /257	6
S148	48590	$\frac{1}{4}$ "	8/203	12 $\frac{1}{8}$ /308	6
S5164	48602	$\frac{5}{16}$ "	4/102	8 $\frac{1}{2}$ /216	6
S5164V	48696	$\frac{5}{16}$ "	4/102	8 $\frac{1}{2}$ /216	6
S5166	48603	$\frac{5}{16}$ "	6/152	10 $\frac{1}{2}$ /267	6
S5166V	48604	$\frac{5}{16}$ "	6/152	10 $\frac{1}{2}$ /267	6
S5168	48605	$\frac{5}{16}$ "	8/203	12 $\frac{1}{2}$ /317	6
S51610	48606	$\frac{5}{16}$ "	10/254	14 $\frac{1}{2}$ /368	6
S388	48591	$\frac{3}{8}$ "	8/203	12 $\frac{1}{2}$ /317	6
S3812	48600	$\frac{3}{8}$ "	12/305	18/457	6
S71612	48607	$\frac{7}{16}$ "	12/305	18/457	6
S71618	48608	$\frac{7}{16}$ "	18/457	24/610	6

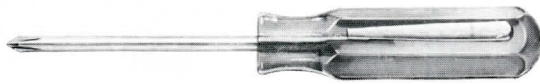
## Square blade screwdriver set






SDS-44 (48611) contains 5 square blade screwdrivers for slotted screws. Catalog Nos. S141, S3164, S144, S5166, S388.

## Screwdrivers for recess head screws

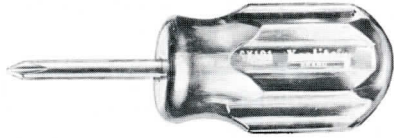
### Pocket clip style – Phillips type






Cat. No.	N/S No.	Point size	 inches	 /mm	 /mm	Shelf Pack
P12S	48485	0	$\frac{1}{8}$ "	2/51	$4\frac{1}{4}$ /108	12
P12SV	48690					

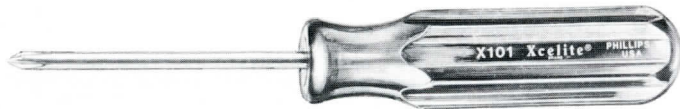
Note: P12S20 – Hang up card containing twenty P12S screwdrivers.




### Stubby – Phillips type



Cat. No.	N/S No.	Point size	 inches	 /mm	 /mm	Shelf Pack
SX-101	48622	1	$\frac{3}{16}$ "	$1\frac{7}{8}$ /37	$3\frac{1}{2}$ /87	6
SX-102	48623	2	$\frac{1}{4}$ "	$1\frac{5}{16}$ /33	$3\frac{3}{8}$ /86	6




### Regular – Phillips type



Cat. No.	N/S No.	Point size	 inches	 /mm	 /mm	Shelf Pack
X100	48637	0	$\frac{1}{8}$ "	2/50	$4\frac{5}{8}$ /117	6
X100V	48638					
X101	48639	1	$\frac{3}{16}$ "	3/76	$6\frac{5}{8}$ /168	6
X101V	48640					
X108	48646	1	$\frac{3}{16}$ "	6/152	$9\frac{5}{8}$ /244	6
X108V	48647					
X102	48641	2	$\frac{1}{4}$ "	4/102	$8\frac{1}{8}$ /206	6
X102V	48642					
X103	48643	3	$\frac{5}{16}$ "	6/152	$10\frac{1}{2}$ /267	6
X103V	48644					
X104	48645	4	$\frac{3}{8}$ "	8/203	$12\frac{1}{2}$ /317	6

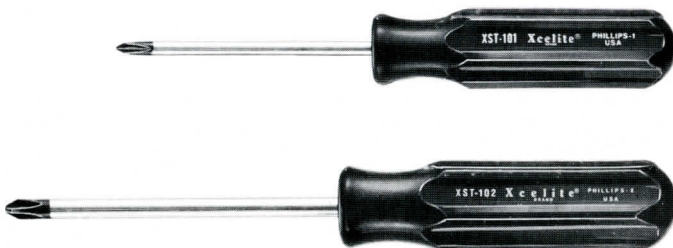
### Extra long – Phillips type






Cat. No.	N/S No.	Point size	 inches	 /mm	 /mm	Shelf Pack
X1010	48648	1	$\frac{3}{16}$ "	10/254	$13\frac{5}{8}$ /346	6
X1020	48649	2	$\frac{1}{4}$ "	10/254	$14\frac{1}{8}$ /359	6

### Super-tru tip – Phillips type

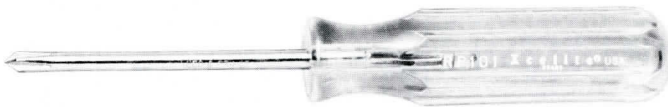
The bright, nickel chrome blades have tips which have been specially treated and finished with black oxide for the ultimate in control. The advantage lies in the closer fit of the super-tru tips for much longer wear life and the reduction of damage to screw head recesses, especially in the smaller size fasteners.






Cat. No.	N/S No.	Point size	 inches	 /mm	 /mm	Shelf Pack
XST-100	48673	0	$\frac{1}{8}$ "	2/50	$4\frac{5}{8}$ /117	6
XST-100V	48674					
XST-101	48675	1	$\frac{3}{16}$ "	3/76	$6\frac{5}{8}$ /168	6
XST-101V	48676					
XST-102	48677	2	$\frac{1}{4}$ "	4/102	$8\frac{1}{8}$ /206	6
XST-102V	48678					
XST-1010	48679	1	$\frac{3}{16}$ "	10/254	$13\frac{5}{8}$ /371	6
XST-1020	48680	2	$\frac{1}{4}$ "	10/254	$14\frac{1}{8}$ /359	6

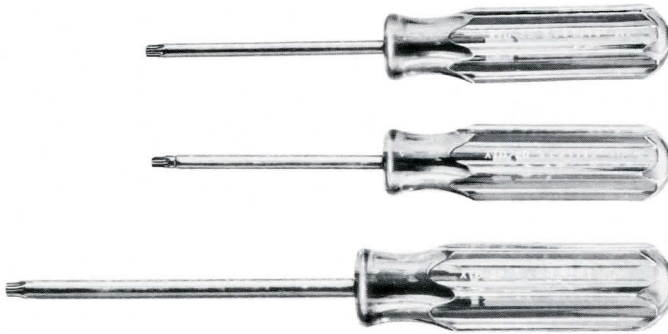





## Frearson (Reed & Prince) Type



Cat. No.	N/S No.	 inches	 /mm	 /mm	Shelf Pack
RP-101	48582	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
RP-102	48583	$\frac{1}{4}$ "	4/102	$\frac{8}{8}$ /206	6

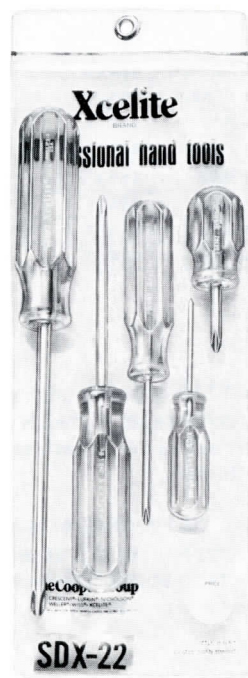
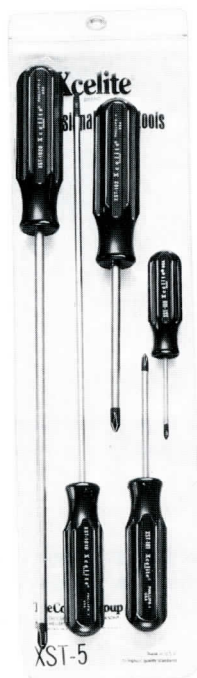
## Screwdrivers for Torx® head screws



Cat. No.	N/S No.	 inches	 /mm	 /mm	Shelf Pack
XTD-10	48803	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
XTD-10V	48804	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
XTD-15	48805	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
XTD-15V	48806	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
XTD-20	48807	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
XTD-20V	48808	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
XTD-25	48809	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
XTD-25V	48810	$\frac{3}{16}$ "	3/76	$\frac{6}{8}$ /168	6
XTD-27	48811	$\frac{1}{4}$ "	4 $\frac{1}{2}$ /105	$\frac{8}{8}$ /220	6
XTD-27V	48812	$\frac{1}{4}$ "	4 $\frac{1}{2}$ /105	$\frac{8}{8}$ /220	6
XTD-30	48813	$\frac{1}{4}$ "	4 $\frac{1}{2}$ /105	$\frac{8}{8}$ /220	6
XTD-30V	48814	$\frac{1}{4}$ "	4 $\frac{1}{2}$ /105	$\frac{8}{8}$ /220	6

Torx® is the trademark of Camcar Division of Textron Incorporated

## Screwdriver sets



SDX-22 (48612) contains 5 pieces – all Phillips. Catalog numbers X100, X101, X102, X103, SX102.

XST-3 (48735) contains 3 pieces – all Super-tru tip Phillips type. Catalog numbers XST-100, XST-101, XST-102.

XST-5 (48736) contains 5 pieces – all Super-tru tip Phillips type. Catalog numbers XST-100, XST-101, XST-102, XST-1010 and XST-1020.

SD-3V (48609) contains 3 pocket clip screwdrivers – R181 and R3322 for slotted screws, P-12S for Phillips head screws.




SRX-33 (48621) contains 6 pieces – 4 round blade for slotted screws, numbers R184, R3166, R144, R5166 and 2 Phillips types, numbers X101 and X102.

## Screwdrivers for recessed socket head screws

### Allen hex socket type




### Inch sizes – amber handles



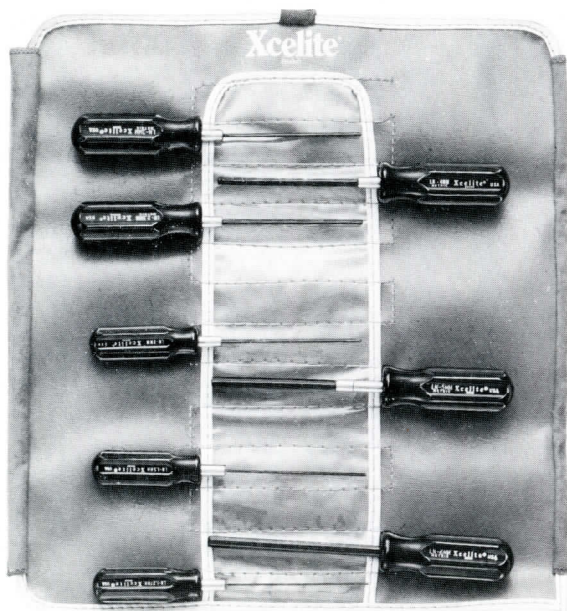
Cat. No.	N/S No.	 inches	 /mm	 /mm	Shelf Pack
LN-20	48446	.050"	4/102	6 $\frac{3}{8}$ /168	6
LN-21 LN-21V	48447 48827	$\frac{1}{16}$ "	4/102	6 $\frac{3}{8}$ /168	6
LN-22 LN-22V	48448 48828	$\frac{5}{64}$ "	4/102	6 $\frac{3}{8}$ /168	6
LN-23 LN-23V	48449 48829	$\frac{3}{32}$ "	4/102	7 $\frac{1}{8}$ /190	6
LN-764 LN-764V	48455 48830	$\frac{7}{64}$ "	4/102	7 $\frac{1}{8}$ /190	6
LN-24 LN-24V	48450 48831	$\frac{1}{8}$ "	4/102	7 $\frac{1}{8}$ /190	6
LN-964 LN-964V	48456 48832	$\frac{9}{64}$ "	4/102	7 $\frac{1}{8}$ /190	6
LN-25 LN-25V	48451 48833	$\frac{5}{32}$ "	4/102	9 $\frac{1}{8}$ /232	6
LN-26 LN-26V	48452 48834	$\frac{3}{16}$ "	6/152	10 $\frac{1}{8}$ /257	6
LN-27	48453	$\frac{7}{32}$ "	6/152	10 $\frac{1}{8}$ /257	6
LN-28	48454	$\frac{1}{4}$ "	6/102	10 $\frac{1}{8}$ /257	6

### Metric sizes – black handles



Cat. No.	N/S No.	 mm	 mm	 mm	Shelf Pack
LN-1.27MM	48426	1.27	102	168	6
LN-1.5MM	48427	1.50	102	168	6
LN-2MM	48428	2.00	102	168	6
LN-2.5MM	48429	2.5	102	181	6
LN-3MM	48430	3	102	181	6
LN-4MM	48431	4	102	181	6
LN-5MM	48432	5	102	181	6
LN-6MM	48433	6	102	181	6

### Roll-up kits for Allen hex socket type



#### LN-11 kit (48445) (inch sizes)

A complete set of the LN series Allen hex type screwdrivers. Comes in a roll-up canvas case, plastic-coated for wear and protection.

#### LN-8MM kit (48434) (metric sizes)

A complete set of 8 drivers with black handles as listed in metric size table above. Comes in a roll-up canvas case, plastic-coated for wear and protection.






## Ballpoint style, Allen hex socket type

Unique "ballpoint" tip makes these Xcelite drivers ideal for tightening and removing Allen type socket head screws in spots where you can't reach them straight-on or merely want an easier, quicker way to drive them home. Will engage screw head from any angle. Slip easily into sockets and hold securely without reaming, because ends are precision-machined to close tolerances.




### Inch sizes – amber handles



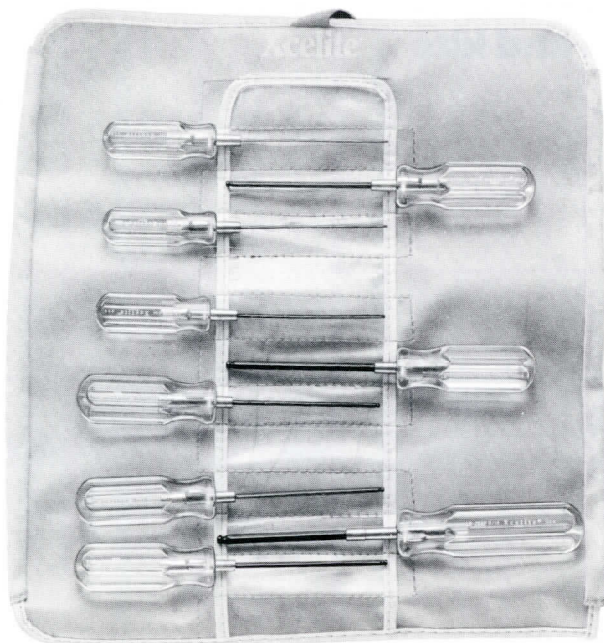
Cat. No.	N/S No.	 inches	 /mm	 /mm	Shelf Pack
LN-20BP	48457	.050"	4/102	6 $\frac{3}{8}$ /168	6
LN-21BP	48458	$\frac{1}{8}$ "	4/102	6 $\frac{3}{8}$ /168	6
LN-22BP	48459	$\frac{5}{16}$ "	4/102	6 $\frac{3}{8}$ /168	6
LN-23BP	48460	$\frac{3}{4}$ "	4/102	7 $\frac{1}{8}$ /181	6
LN-764BP	48466	$\frac{7}{8}$ "	4/102	7 $\frac{1}{8}$ /181	6
LN-24BP	48461	$\frac{1}{2}$ "	4/102	7 $\frac{1}{8}$ /181	6
LN-964BP	48467	$\frac{3}{4}$ "	4/102	7 $\frac{1}{8}$ /181	6
LN-25BP	48462	$\frac{5}{8}$ "	4/102	7 $\frac{1}{8}$ /181	6
LN-26BP	48463	$\frac{3}{4}$ "	6/152	7 $\frac{1}{8}$ /181	6
LN-27BP	48464	$\frac{7}{8}$ "	6/152	7 $\frac{1}{8}$ /181	6
LN-28BP	48465	$\frac{1}{2}$ "	6/102	7 $\frac{1}{8}$ /181	6

### Metric sizes – black handles



Cat. No.	N/S No.	 mm	 mm	 mm	Shelf Pack
LN-1.27MMBP	48435	1.27	102	168	6
LN-1.5MMBP	48436	1.5	102	168	6
LN-2MMBP	48437	2	102	168	6
LN-2.5MMBP	48438	2.5	102	181	6
LN-3MMBP	48439	3	102	181	6
LN-4MMBP	48440	4	102	181	6
LN-5MMBP	48441	5	102	181	6
LN-6MMBP	48442	6	102	181	6

## Roll-up kits for Ballpoint style, Allen hex socket type



### LN-8MMBP (48443) – Metric sizes

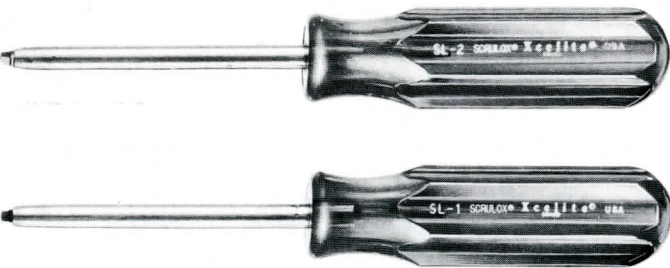
All 8 ballpoint, Allen hex socket type screwdrivers. Comes in roll-up canvas case.

### LN-9BP (48444) – Inch sizes



9 ballpoint, Allen hex socket type screwdrivers (LN-20BP through LN-26BP). Comes in roll-up canvas case.

# Scrulox type

(color-coded handles)







All blades are bright nickel chrome plated.

Cat. No.	N/S No.	Point size	Handle color	 /mm	 /mm	Shelf Pack
SL-0 SL-0V	48613 48614	0	amber	3½/89	7⅝/194	6
SL-1 SL-1V	48615 48616	1	green	3½/89	7⅝/194	6
SL-2 SL-2V	48617 48802	2	red	3½/89	7⅝/194	6
SL-3 SL-3V	48619 48620	3	black	3½/89	7⅝/194	6
SL-2L SL-2LV	48618 48801	2	red	5⅝/130	9¼/235	6

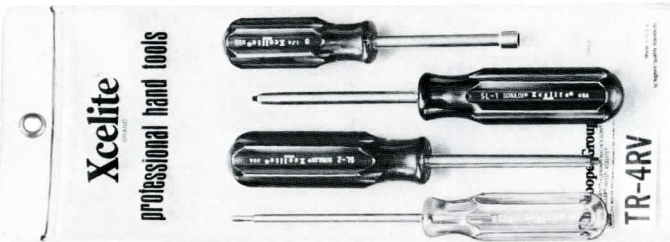
# Clutch head type

(furnished in type "G" design – amber handles)



Cat. No.	N/S No.	 inches	 /mm	 /mm	 /mm	Shelf Pack
G5324 G5324V	48399 48400	⅝"	⅜/5	4/102	7⅝/194	6
G3164 G3164V	48397 48398	⅜"	¼/6	4/102	7⅝/200	6
G146	48395	¼"	⅝/7	6/152	10⅝/257	6

# TR-4 fixed handle tool kit (48634)



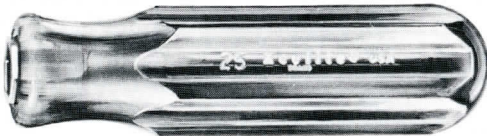
Basic maintenance tool kit containing 4 fixed-handle drivers, all the blades securely imbedded in top quality plastic handles, housed in plastic view case. Available separately.


Cat. No.	N/S No.	Description	Shelf Pack
No. 8	48700	¼" hex socket nutdriver	6
G5324	48399	⅝" clutch-head screwdriver	6
SL-1	48615	No. 1 Scrulox square recess screwdriver	6
SL-2	48617	No. 2 Scrulox square recess screwdriver	6
TR-4	48634	Complete set	1

# Combination reversible screwdrivers and kits

Economical multi-purpose tool sets and kits consisting of either regular or stubby handle combined with one or more of reversible, interchangeable combination blades. Blades and handle may be purchased separately. Blades snap in and out easily and are held firmly in perfect alignment by patented spring lock.

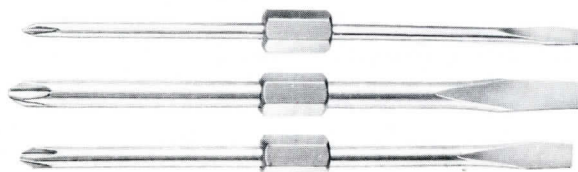
# Handle





Cat. No.	N/S No.	Description	 mm x mm/ " x "
25	48133	regular	28.57 x 104.77/1⅝ x 4⅝

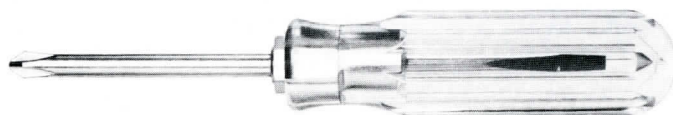



## Reversible blades



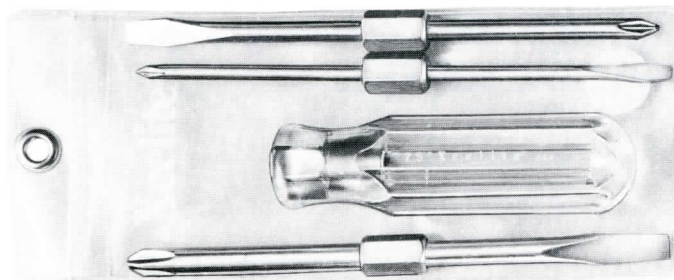
Cat. No.	N/S No.	 /mm	Description	 /mm	Shelf Pack
RB-1	48579	$\frac{3}{16}$ / 4.76	no. 1 Phillips - $\frac{3}{16}$ " slotted	6 $\frac{1}{2}$ / 159	6
RB-2	48580	$\frac{1}{4}$ / 6.35	no. 2 Phillips - $\frac{1}{4}$ " slotted	6 $\frac{1}{2}$ / 159	6
RB-3	48581	$\frac{5}{16}$ / 7.94	no. 3 Phillips - $\frac{5}{16}$ " slotted	6 $\frac{1}{2}$ / 159	6

## Combination reversible blades and handles



Cat. No.	N/S No.	Description	 /mm
CR-1	48390	No. 25 handle & RB1 blade	7 $\frac{1}{4}$ / 184.15
CR-1V	48391		
CR-2	48392	No. 25 handle & RB2 blade	7 $\frac{1}{4}$ / 184.15
CR-2V	48393		

## Plastic view kit



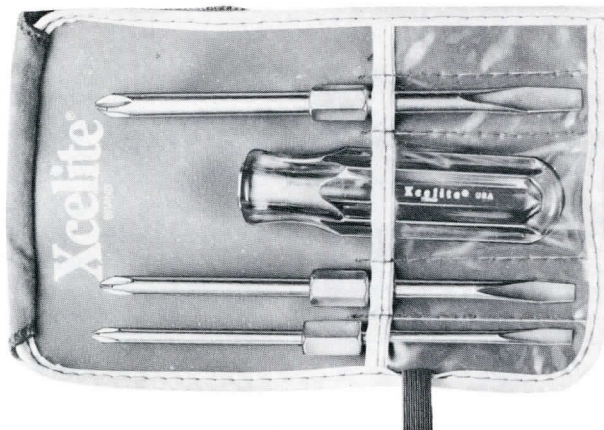
### CK20 (48388)

Zipper case with RB1, RB2 blades and No. 25 handle.

### CK23 (48389)

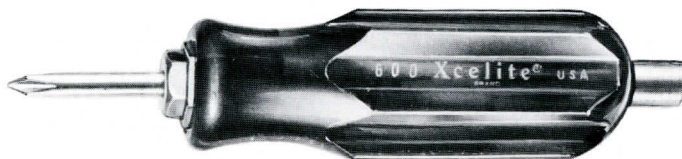
Zipper case with RB1, RB2 and RB3 blades and No. 25 handle.

## CK-3 pocket roll kit



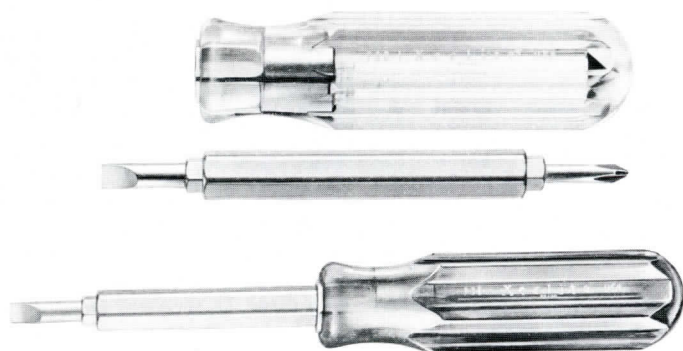
CK-3 (48387) contains RB1, RB2 and RB3 blades with No. 25 handle.

## 600 (48369) 4-way pocket tool



An extremely versatile time-saver, especially handy for removing backs of TV sets and installing antennas. Double-ended handle serves as two sizes of nutdrivers, while special reversible SB1 blade fits slotted or Phillips head screws.

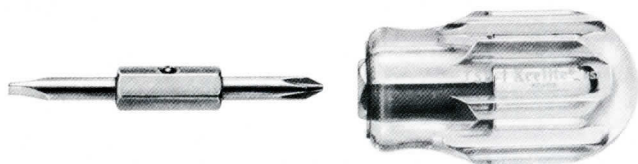
## Four-in-one screwdriver



Extra handy self-storing standard shaft screwdriver converts in seconds to the four most often needed tips,  $\frac{3}{16}$ " and  $\frac{1}{4}$ " slotted tips and Nos. 1 and 2 Phillips type. These 2 blades are also interchangeable with the Two-In-One.

Cat. No.	N/S No.	Description	Shelf Pack
FSD-1	48753	Four-in-one screwdriver complete	6
FSD-1V	48760		
FSDP-1	48754	Handle only	6
FSDP-2	48755	Toolholder only	6
FSDP-3	48756	$\frac{3}{16}$ " slotted and No. 1 Phillips blade only	6
FSDP-4	48757	$\frac{1}{4}$ " slotted and No. 2 Phillips blade only	6

## Two-in-one screwdriver



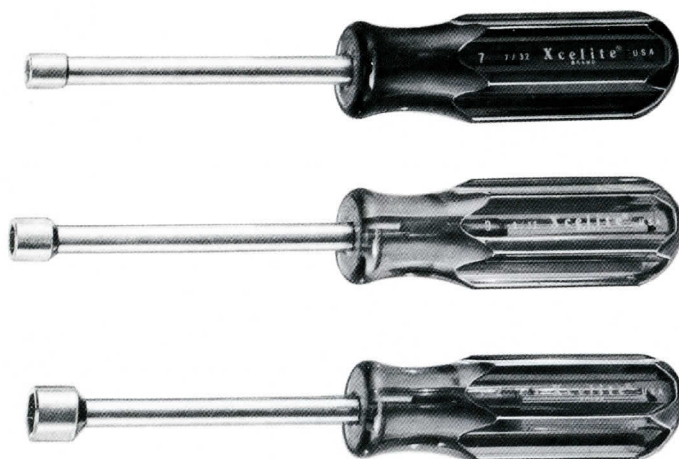
Stubby  $\frac{3}{16}$ " slotted tip end No. 1 Phillips types.

Cat. No.	N/S No.	Description	Shelf Pack
TSD-1	48758	Two-in-one screwdriver complete	6
TSD-1V	48761		
TSDP-1	48759	Handle only	6

## Nutdrivers – fixed handle

Xcelite nutdrivers feature steel shafts and precision-machined, cold-drawn, case-hardened sockets with bright finish. Firm grip plastic handles are color-coded for easy size identification. Fixed handle nutdrivers can be furnished (optionally at extra cost) with blades which have been insulated by plastic dip-coating. Xcelite also offers a variety of nutdriver blades which fit interchangeably in special handles. See pages X19 and X20.

## Regular – drilled shaft



Cat. No.	N/S No.	Color Code	$\frac{1}{2}$ inches	Depth of hole	$\frac{1}{2}$ inches	$\frac{1}{2}$ inches	Shelf Pack
6	48105	Black	$\frac{3}{16}$ "	$1\frac{1}{8}$ "	3/76	$6\frac{1}{8}/156$	6
6V	48107						
7	48108	Brown	$\frac{7}{32}$ "	$1\frac{1}{8}$ "	3/76	$6\frac{1}{8}/156$	6
7V	48701						
8	48700	Red	$\frac{1}{4}$ "	$1\frac{1}{8}$ "	3/76	$6\frac{1}{8}/156$	6
8V	48114						
9	48115	Orange	$\frac{9}{32}$ "	$1\frac{1}{8}$ "	3/76	$6\frac{1}{8}/156$	6
9V	48686						
10	48117	Amber	$\frac{5}{16}$ "	$1\frac{1}{8}$ "	3/76	$6\frac{1}{8}/156$	6
10V	48121						
11	48122	Green	$\frac{11}{32}$ "	$1\frac{1}{8}$ "	3/76	$6\frac{1}{8}/156$	6
11V	48124						
12	48125	Blue	$\frac{3}{8}$ "	$1\frac{1}{8}$ "	3/76	$6\frac{1}{8}/156$	6
12V	48127						
14	48129	Brown	$\frac{7}{16}$ "	$1\frac{1}{8}$ "	$2\frac{1}{8}/73$	7/168	6
14V	48130						
16	48131	Red	$\frac{1}{2}$ "	$1\frac{1}{8}$ "	$2\frac{1}{8}/73$	7/168	6
16V	48132						



## Regular – full hollow shaft Inch sizes, color-coded handles



Cat. No.	N/S No.	Color Code	$\frac{3}{8}$ " inches	Depth of hole	$\frac{1}{8}$ " /mm	$\frac{1}{4}$ " /mm	Shelf Pack
HS-6 HS-6V	48403 48404	Black	$\frac{3}{16}$ "	6"	$\frac{3}{8}$ /79	$\frac{6}{16}$ /159	6
HS-7 HS-7V	48405 48688	Brown	$\frac{3}{16}$ "	6"	$\frac{3}{8}$ /79	$\frac{6}{16}$ /159	6
HS-8 HS-8V	48406 48407	Red	$\frac{1}{4}$ "	7"	$\frac{3}{8}$ /79	$\frac{7}{16}$ /184	6
HS-9 HS-9V	48408 48689	Orange	$\frac{3}{16}$ "	7"	$\frac{3}{8}$ /79	$\frac{7}{16}$ /184	6
HS-10 HS-10V	48409 48410	Amber	$\frac{5}{16}$ "	7"	$\frac{3}{8}$ /79	$\frac{7}{16}$ /184	6
HS-11 HS-11V	48411 48412	Green	$\frac{11}{32}$ "	7"	$\frac{3}{8}$ /79	$\frac{7}{16}$ /184	6
HS-12 HS-12V	48413 48414	Blue	$\frac{3}{8}$ "	7"	$\frac{3}{8}$ /79	$\frac{7}{16}$ /184	6
HS-14 HS-14V	48415 48416	Brown	$\frac{7}{16}$ "	7"	$\frac{3}{8}$ /79	$\frac{7}{16}$ /184	6
HS-16 HS-16V	48417 48418	Red	$\frac{1}{2}$ "	7"	$\frac{3}{8}$ /79	$\frac{7}{16}$ /184	6
HS-18 HS-18V	48419 48420	Orange	$\frac{9}{16}$ "	7"	$\frac{3}{8}$ /79	$\frac{7}{16}$ /184	6

## Extra long – full hollow shaft Inch sizes, color-coded handles

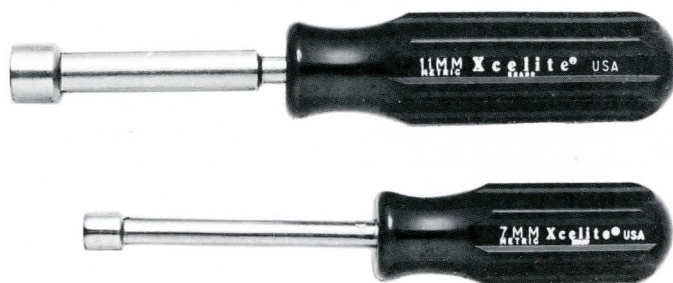


Cat. No.	N/S No.	Color Code	$\frac{3}{8}$ " inches	Depth of hole	$\frac{1}{8}$ " /mm	$\frac{1}{4}$ " /mm	Shelf Pack
L-6 L-6V	48371 48387	Black	$\frac{3}{16}$ "	$8\frac{1}{4}$ "	6/152	$9\frac{1}{8}$ /232	6
L-8 L-8V	48372 48375	Red	$\frac{1}{4}$ "	$9\frac{3}{4}$ "	6/152	$10\frac{1}{8}$ /257	6
L-10 L-10V	48376 48379	Amber	$\frac{5}{16}$ "	$9\frac{3}{4}$ "	6/152	$10\frac{1}{8}$ /257	6
L-11 L-11V	48380 48381	Green	$\frac{11}{32}$ "	$9\frac{3}{4}$ "	6/152	$10\frac{1}{8}$ /257	6
L-12 L-12V	48382 48383	Blue	$\frac{3}{8}$ "	$9\frac{3}{4}$ "	6/152	$10\frac{1}{8}$ /257	6

## Metric nutdrivers

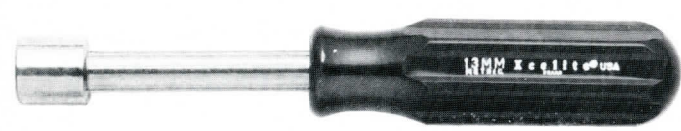
Manufactured precisely to metric dimension, these tools are particularly useful in the assembly and servicing of foreign equipment. Blades, shafts and shanks are finished in bright finish.




## Regular – drilled shaft Metric sizes, black handles



Cat. No.	N/S No.	$\frac{3}{8}$ " mm	$\frac{1}{8}$ " mm	Depth of hole mm	Thread diameter mm	Hex head cap screws mm	Hex nuts mm	Shelf Pack
4MM	48100	4	76	29	156	—	2	6
4.5MM	48101	4.5	76	29	156	—	2.3	6
5MM	48103	5	76	29	156	2.6	2.6	6
5.5MM	48104	5.5	76	29	156	3	3	6
6MM	48106	6	76	29	156	3.5	3.5	6
7MM	48109	7	76	29	156	4	4	6
8MM	48112	8	76	29	156	5	5	6
9MM	48116	9	76	29	156	5	5	6
10MM	48119	10	73	48	178	6	6	6
11MM	48123	11	73	48	178	7	7	6

Full – hollow shaft






Cat. No.	N/S No.	 mm	 mm	Depth of hole mm	 mm	Shelf Pack
12MM	48126	12	79	178	184	6
13MM	48128	13	79	178	184	6

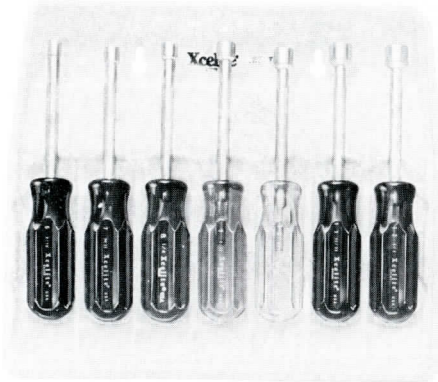
Magnetic nutdrivers



Exclusive with Xcelite  $\frac{1}{4}$ " and  $\frac{5}{16}$ " magnetic fixed handle nutdrivers offer ultimate in convenience for assembly and service operations involving hex fasteners. The Alnico permanent magnet inserted in socket holds fasteners firmly for easy, one-hand driving or for retrieving on removal. A unique Xcelite development effectively insulates magnet. All nutdriver sockets have been specially treated and hardened for use with self-tapping screws. Comfortable contoured handle not only provides adequate torque for one-hand driving, but distinguishes these magnetic tools from regular Xcelite nutdrivers. See also the 99 series for magnetic shafts.

Cat. No.	N/S No.	 inches	Handle Color	 /mm	 /mm	Shelf Pack
8M 8MV	48111 48113	$\frac{1}{4}$ "	Red	3/76	6 $\frac{1}{8}$ /156	6
10M 10MV	48118 48120	$\frac{5}{16}$ "	Amber	3/76	6 $\frac{1}{8}$ /156	6
L-8-M L-8-MV	48373 48374	$\frac{1}{4}$ "	Red	6/152	10 $\frac{1}{8}$ /257	6
L-10-M L-10-MV	48377 48378	$\frac{5}{16}$ "	Amber	6/152	10 $\frac{1}{8}$ /257	6
LL-8-M LL-10-M	48384 48385	$\frac{1}{4}$ "	Red	16 $\frac{3}{4}$ /444	20 $\frac{3}{8}$ /552	6
		$\frac{5}{16}$ "	Amber	16 $\frac{3}{4}$ /444	20 $\frac{3}{8}$ /552	6

Color coded nutdriver sets  
"Tray bien"



127TB (48362) contains solid shaft Nos. 6, 7, 8, 9, 10, 11 and 12.

147TB (48363) contains hollow shaft Nos. HS8, HS9, HS10, HS11, HS12, HS14 and HS16.

Nutdriver set



157 (48365) contains 7 pieces, all regular drilled shaft, Nos. 6, 8, 10, 11, 12, 14 and 16.

177 (48366) contains 7 pieces, all hollow shaft, Nos. HS6, HS8, HS10, HS11, HS12, HS14 and HS16.



## Nutdriver kit "Keep and carry" case



### Inch sizes

HS6-18 (48421) sturdy yellow plastic case keeps nutdrivers orderly on workbench, carries them on service calls. Contains hollow shaft Nos. HS6, HS7, HS8, HS9, HS10, HS11, HS12, HS14, HS16 and HS18.

### Metric sizes

4-13MM (48102) is a 10-piece set of popular size metric nutdrivers: 4MM through 8MM, 10MM, 11MM, 13MM. All have 31.35mm depth shaft hole. Red "keep and carry" case.



## Compact convertible tool sets

Compact convertible tool sets do more jobs with fewer tools, save bench space, and lighten the service kit. Each set is equipped with a remarkable black, "piggyback" Torque amplifier handle (catalog No. TA2) that slips over the top of color-coded Midget drivers to provide larger gripping service, extended reach, and increased driving power. Sets housed in flexible, plastic, stand-up cases with see-through covers. All individual screwdrivers and nutdrivers are available separately.

## PS-88 screwdriver set Inch sizes (color-coded handles)





Contents:—

Cat. No.	N/S No.	Handle Color	 inches	 /mm	Shelf Pack
P3321	48505	Green	$\frac{3}{32}$ "	3 $\frac{1}{2}$ /89	12
P181	48502	Red	$\frac{1}{8}$ "	3 $\frac{1}{2}$ /89	12
P5321	48506	Black	$\frac{3}{32}$ "	3 $\frac{1}{2}$ /89	12
P3161	48504	Orange	$\frac{3}{16}$ "	3 $\frac{1}{2}$ /89	12
P141	48501	Amber	$\frac{1}{4}$ "	3 $\frac{1}{2}$ /89	12
P0	48471	Blue	0 Phillips	3 $\frac{1}{2}$ /89	12
P1	48472	Brown	1 Phillips	3 $\frac{1}{2}$ /89	12
P2	48473	Amber	2 Phillips	3 $\frac{1}{2}$ /89	12
TA-2	48624	Black	Torque amplifier handle		6
PS-88	48523	Complete set			3
PS-88V	48524	Complete set carded			3

## PS-7 screwdriver and nutdriver set Inch sizes (color-coded handles)



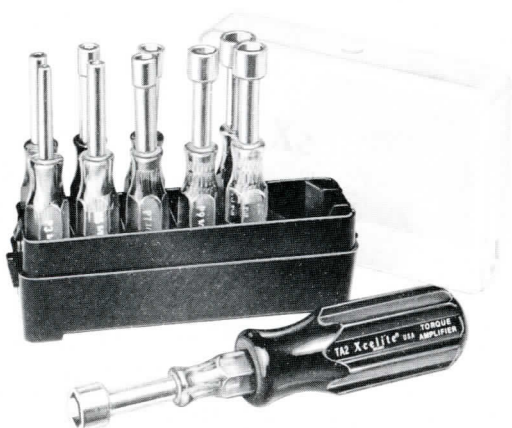
Contents:—  
Screwdrivers

Cat. No.	N/S No.	Handle Color	 inches	 "/mm	Shelf Pack
P3161	48504	Orange	$\frac{3}{16}$ "	3 $\frac{1}{2}$ /89	12
P3321	48505	Green	$\frac{3}{8}$ "	3 $\frac{1}{2}$ /89	12
P0	48471	Blue	0 Phillips	3 $\frac{1}{2}$ /89	12
P1	48472	Brown	1 Phillips	3 $\frac{1}{2}$ /89	12



Nutdrivers

P8	48479	Red	$\frac{1}{4}$ "	3 $\frac{1}{2}$ /89	12
P10	48482	Amber	$\frac{5}{16}$ "	3 $\frac{1}{2}$ /89	12
TA-2	48624	Black	Torque amplifier handle		6
PS-7	48519	Complete set			3
PS-7V	48520	Complete set carded			3

## PS-120 nutdriver set Inch sizes (color coded handles)





Contents:—

Cat. No.	N/S No.	Handle Color	 inches	 " /mm	Shelf Pack
P3	48474	Blue	$\frac{3}{32}$ "	3½/89	12
P4	48475	Red	$\frac{1}{8}$ "	3½/89	12
P5	48476	Amber	$\frac{9}{32}$ "	3½/89	12
P6	48477	Black	$\frac{3}{8}$ "	3½/89	12
P7	48478	Brown	$\frac{7}{32}$ "	3½/89	12
P8	48479	Red	$\frac{1}{4}$ "	3½/89	12
P9	48481	Orange	$\frac{9}{32}$ "	3½/89	12
P10	48482	Amber	$\frac{5}{16}$ "	3½/89	12
P11	48483	Green	$\frac{11}{32}$ "	3½/89	12
P12	48484	Blue	$\frac{3}{8}$ "	3½/89	12
TA-2	48624	Black	Torque amplifier handle		3
PS-120	48528	Complete set			3
PS-120V	48529	Complete set carded			3

## PS-121 MM metric compact convertible nutdriver set



Contents:—



Cat. No.	N/S No.	 mm	 mm	Shelf Pack
P3MM	48507	3	89	12
P3.5MM	48508	3.5	89	12
P4MM	48509	4	89	12
P4.5MM	48510	4.5	89	12
P5MM	48511	5	89	12
P5.5MM	48512	5.5	89	12
P6MM	48513	6	89	12
P7MM	48514	7	89	12
P8MM	48515	8	89	12
P10MM	48516	10	89	12
TA-2	48624	Torque amplifier handle		3
PS-121MM	48530	Complete set		3



## PS-130 screwdriver and nutdriver set Inch sizes (color-coded handles)



Contents:—  
Screwdrivers

Cat. No.	N/S No.	Handle Color	 inches		Shelf Pack
P1	48472	Brown	1 Phillips	—	12
P2	48473	Amber	2 Phillips	—	12
P181	48502	Red	$\frac{1}{8}$ "	—	12
P3161	48504	Orange	$\frac{3}{16}$ "	—	12
P141	48501	Amber	$\frac{1}{4}$ "	—	12



Nutdrivers

P6	48477	Black	—	$\frac{3}{16}$ "	12
P8	48479	Red	—	$\frac{1}{4}$ "	12
P10	48482	Amber	—	$\frac{5}{16}$ "	12
P11	48483	Green	—	$\frac{11}{32}$ "	12
P12	48484	Blue	—	$\frac{3}{8}$ "	12
TA-2	48624	Black	Torque amplifier handle		3
PS-130	48531	Complete set			3
PS-130V	48532	Complete set carded			3

## PS-89 screwdriver set for hex socket screws Inch sizes (red handles)





Contents:—

Cat. No.	N/S No.	 inches	 /mm	Shelf Pack
P18	48487	.028"	4/102	12
P19	48488	.035"	4/102	12
P20	48489	.050"	4/102	12
P21	48490	$\frac{1}{16}$ "	4/102	12
P22	48491	$\frac{5}{64}$ "	4/102	12
P23	48492	$\frac{3}{32}$ "	4/102	12
P764	48503	$\frac{7}{64}$ "	4/102	12
P24	48493	$\frac{1}{8}$ "	4/102	12
TA-2	48624	Torque amplifier handle		3
PS-89	48525	Complete set		3
PS-89V	48526	Complete set carded		3

## PS-90MM compact convertible hex socket screwdriver set Metric sizes (black handles)




Contents:—

Cat. No.	N/S No.	 mm	 mm	Shelf Pack
P78	48500	0.89	102	12
P71	48494	1.27	102	12
P72	48191	1.5	102	12
P73	48495	2.0	102	12
P74	48496	2.5	102	12
P75	48497	3.0	102	12
P76	48498	4.0	102	12
P77	48499	5.0	102	12
PS-90MM	48527	Complete set		3
TA-2	48624	Torque amplifier handle		3

## PS-44 Scrulox screwdriver set Inch sizes (color-coded handles)



Contents:—

Cat. No.	N/S No.	Point size	Description	Handle Color	Screw size	 "/mm	Shelf Pack
PSL-0	48536	0	Scrulox	Yellow	3, 4	3 $\frac{1}{2}$ /89	12
PSL-1	48537	1	Scrulox	Green	5, 6, 7	3 $\frac{1}{2}$ /89	12
PSL-2	48538	2	Scrulox	Red	8, 9, 10	3 $\frac{1}{2}$ /89	12
PSL-3	48539	3	Scrulox	Black	12-14	3 $\frac{1}{2}$ /89	12
P3161	48504	$\frac{3}{16}$ "	Slotted screwdriver	Orange	—	3 $\frac{1}{2}$ /89	12
P8	48479	$\frac{1}{4}$ "	Nutdriver	Red	—	3 $\frac{1}{2}$ /89	12
TA-2	48624		Torque amplifier handle				3
PS-44	48521		Complete set				3
PS-44V	48522		Complete set carded				3

## PS-TR-1 compact convertible set






A companion to Xcelite's other Compact Convertible Sets, the PS-TR-1 includes 8 midget driver selected to cover virtually any requirement of RV maintenance and service, the unique "piggyback" torque amplifier handle, and the flexible plastic, stand-up case with see-through cover.

Cat. No.	N/S No.	Description	Shelf Pack
PSL-1	48537	No. 1 Scrulox square recess screwdriver	12
PSL-2	48538	No. 2 Scrulox square recess screwdriver	12
PG-532	48517	$\frac{5}{16}$ " clutch-head screwdriver	12
P8	48479	$\frac{1}{4}$ " hex socket nutdriver	12
P1	48472	No. 1 Phillips type screwdriver	12
P2	48473	No. 2 Phillips type screwdriver	12
P3161	48504	$\frac{3}{16}$ " tip, slotted screwdriver	12
P141	48501	$\frac{1}{4}$ " tip, slotted screwdriver	12
PS-TR-1	48534	Complete set	3
PS-TR-1V	48535	Complete set carded	3

## M60 Mini-driver kit Inch sizes (color-coded handles)



The Xcelite M60 Mini-driver kit is a miniaturized version of the Compact Convertible Set. The 6 Mini-Drivers consist of jeweler's-type and Phillips screwdriver blades molded in color-coded plastic handles for precise, detailed work. The kit contains a black Torque Amplifier Handle (Catalog No. M06) $\frac{7}{8}$ " x  $3\frac{1}{8}$ "/22.22mm x 77.78mm and is furnished in a see-through plastic case. Mini-Drivers not available separately.

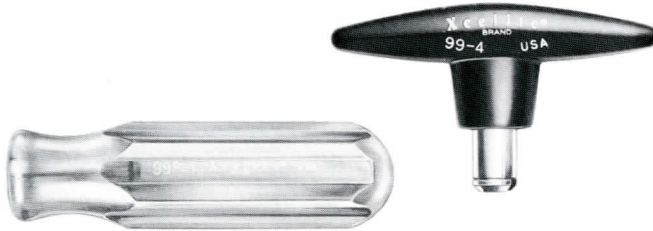
Cat. No.	N/S No.	Handle Color	 "/mm	 "/mm	 "/mm	Shelf Pack
M00		Blue	00 Phillips	$\frac{7}{8}$ /22	2 $\frac{1}{8}$ /54	
M01		Amber	.04/1	$\frac{7}{8}$ /22	2 $\frac{1}{8}$ /54	
M02		Orange	.055/1	$\frac{7}{8}$ /22	2 $\frac{1}{8}$ /54	
M03		Brown	.07/2	$\frac{7}{8}$ /22	2 $\frac{1}{8}$ /54	
M04		Red	.08/2	$\frac{7}{8}$ /22	2 $\frac{1}{8}$ /54	
M05		Green	.10/3	$\frac{7}{8}$ /22	2 $\frac{1}{8}$ /54	
M06		Black				6
M60	48468					6
M60V	48469					6




## Series 99 blades, shanks, and handles

The series 99 interchangeable blades, shanks, and handles shown on these pages are all available separately, allowing gradual, economical accumulation of whatever items might be needed for your individual requirements. This also permits owners of Series 99 sets or kits to enlarge them or substitute tools, as necessary, at minimal cost.

### Handles




Cat. No.	N/S No.	Description	Color	 "x" /mm x mm	Shelf Pack
99-1	48253	Regular	Amber	1½x4½/28x105	6
99-1V	48254				
99-2	48257	Junior	Amber	1¼x3½/27x79	6
99-2V	48258				
99-3	48259	Stubby	Amber	1¾x2/30x51	6
99-3V	48702				
99-4	48260	Tee	Black	3½x1½/89x41	6
99-4V	48265				

### Reversible ratcheting handles



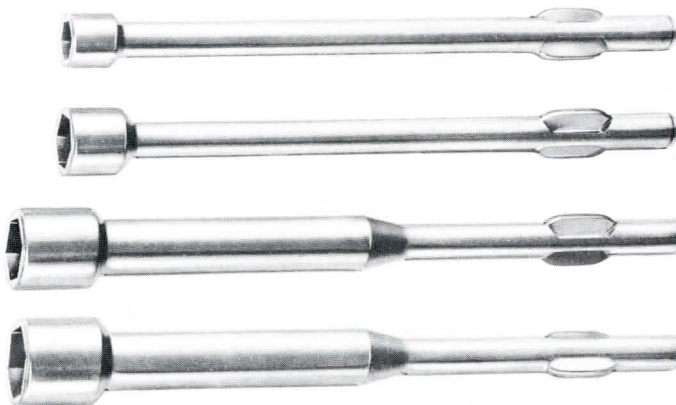
Regular (99-1-R) or Tee (99-4-R) Reversible Ratcheting Handle, which permits extremely simple one-hand operation, even in tight quarters. The recessed reversing shift is easily operated by a flick of the thumb, yet cannot be accidentally tripped by the palm while driving. Light ratcheting drag facilitates turning and prevents fasteners from reversing.


Cat. No.	N/S No.	Description	Color	 "x" /mm x mm	Shelf Pack
99-1-R	48255	Ratchet	Black	1½x4½/32x114	6
99-1-RV	48256				
99-4-R	48263	Tee	Black	3½x1½/89x41	6
99-4-RV	48264				

### Nutdrivers



#### Inch sizes




Cat. No.	N/S No.	 inches	Approximate working length "/mm	Shelf Pack
99-6	48269	⅜"	3⅝/92	6
99-6V	48270			
99-7	48271	½"	3⅝/92	6
99-7V	48273			
99-8	48274	¾"	3⅝/92	6
99-8V	48278			
99-S8	48239	¾"	1⅝/36	6
99-S8V	48703			
99-9	48279	⅞"	3⅝/92	6
99-9V	48281			
99-10	48282	1"	3⅝/92	6
99-10V	48284			
99-S10	48240	1"	1⅝/36	6
99-S10V	48704			
99-11	48285	1½"	3⅝/92	6
99-11V	48287			
99-12	48288	1¾"	3⅝/92	6
99-12V	48289			
99-S12	48241	1¾"	1⅝/36	6
99-S12V	48705			
99-14	48290	2"	4/102	6
99-14V	48291			
99-16	48292	2½"	4/102	6
99-16V	48293			

## Magnetic nutdrivers

### Inch sizes

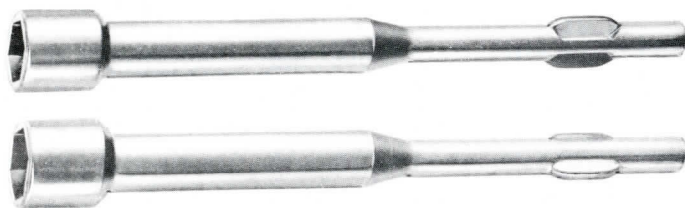



Interchangeable shanks fit all series 99 handles, both regular and ratchet.

Cat. No.	N/S No.	 inches	Approximate working length "/mm	Shelf Pack
99-8M	48275	$\frac{1}{4}$ "	$3\frac{5}{8}$ "/92	6
99-8MV	48277			
99-10M	48294	$\frac{5}{16}$ "	$3\frac{5}{8}$ "/92	6
99-10MV	48295			

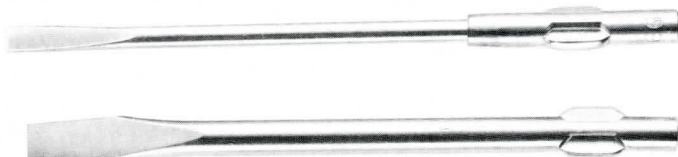
## Nutdrivers


### Metric sizes



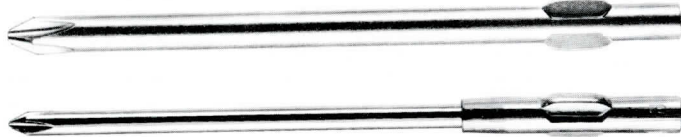
Cat. No.	N/S No.	 mm	Approximate working length mm	Shelf Pack
99-4MM	48261	4	92	6
99-4.5MM	48262	4.5	92	6
99-5MM	48266	5	92	6
99-5.5MM	48267	5.5	92	6
99-6MM	48268	6	92	6
99-7MM	48272	7	92	6
99-8MM	48276	8	92	6
99-9MM	48280	9	92	6
99-10MM	48283	10	102	6
99-11MM	48286	11	102	6


## Slotted screwdrivers



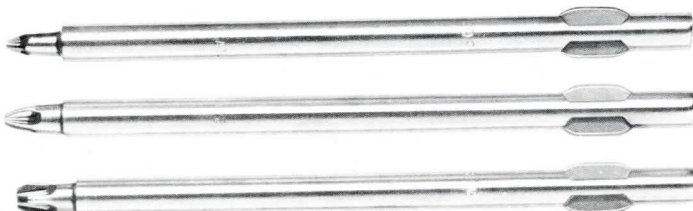
Cat. No.	N/S No.	 inches	Approximate working length "/mm	Shelf Pack
99-125	48337	$\frac{1}{8}$ "	$3\frac{7}{8}$ "/98	6
99-125V	48338			
99-811	48344	$\frac{3}{16}$ "	$3\frac{7}{8}$ "/98	6
99-811V	48345			
99-250	48339	$\frac{1}{4}$ "	$3\frac{7}{8}$ "/98	6
99-250V	48340			
99-312	48341	$\frac{5}{16}$ "	$3\frac{7}{8}$ "/98	6
99-312V	48342			

## Phillips



Cat. No.	N/S No.	 "/mm	Approximate working length "/mm	Shelf Pack
99-820	48346	No. 0	$3\frac{7}{8}$ "/98	6
99-820V	48347			
99-821	48348	No. 1	$3\frac{7}{8}$ "/98	6
99-821V	48349			
99-822	48350	No. 2	$3\frac{7}{8}$ "/98	6
99-822V	48351			

## Pozidriv

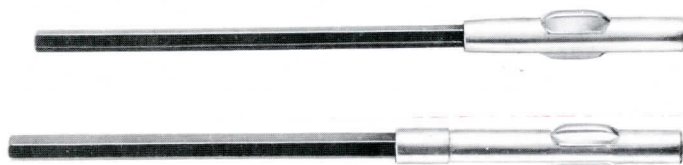



Cat. No.	N/S No.	Description	Approximate working length "/mm	Shelf Pack
99-831	48352	No. 1	$3\frac{1}{8}$ "/79	6
99-832	48353	No. 2	$3\frac{1}{8}$ "/79	6
99-833	48354	No. 3	$3\frac{1}{8}$ "/79	6



## Screwdrivers – Allen hex socket type

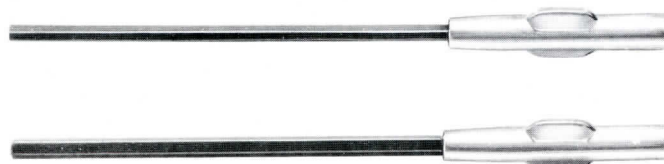
### Inch sizes




Cat. No.	N/S No.	 inches	Approximate working length "/mm	Shelf Pack
99-20	48296	.050"	4/102	6
99-21	48298	$\frac{1}{16}$ "	4/102	6
99-22	48300	$\frac{5}{64}$ "	4/102	6
99-23	48302	$\frac{3}{32}$ "	4/102	6
99-764	48310	$\frac{7}{64}$ "	4/102	6
99-24	48304	$\frac{1}{8}$ "	4/102	6
99-964	48311	$\frac{9}{64}$ "	4/102	6
99-25	48306	$\frac{5}{32}$ "	4/102	6
99-26	48308	$\frac{3}{16}$ "	4/102	6

## Screwdrivers – Allen hex socket type

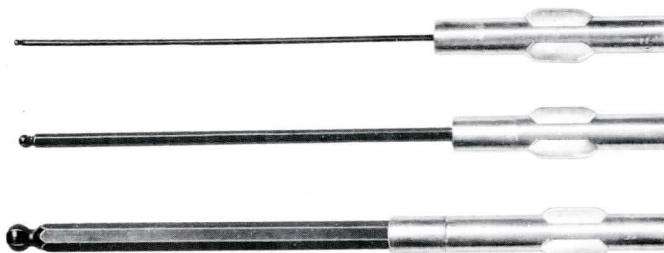
### Metric sizes




Cat. No.	N/S No.	 mm	Approximate working length mm	Shelf Pack
99-71MM	48323	1.27	102	6
91-72MM	48324	1.5	102	6
91-73MM	48325	2.0	102	6
99-74MM	48326	2.5	102	6
99-75MM	48327	3.0	102	6
99-76MM	48328	4.0	102	6
99-77MM	48329	5.0	102	6

## Screwdrivers – ballpoint Allen hex socket type

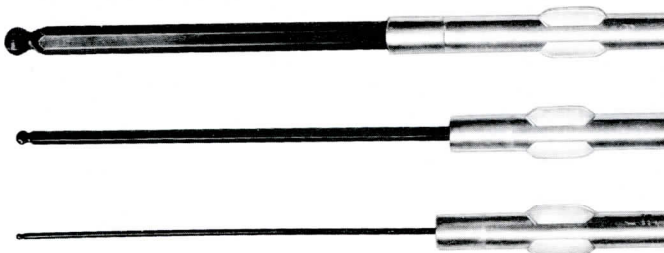
### Inch sizes




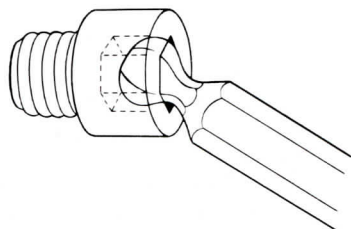
Cat. No.	N/S No.	 inches	Approximate working length "/mm	Shelf Pack
99-20BP	48297	.050"	4/102	6
99-21BP	48299	$\frac{1}{16}$ "	4/102	6
99-22BP	48301	$\frac{5}{64}$ "	4/102	6
99-23BP	48303	$\frac{3}{32}$ "	4/102	6
99-764BP	48343	$\frac{7}{64}$ "	4/102	6
99-24BP	48305	$\frac{1}{8}$ "	4/102	6
99-964BP	48355	$\frac{9}{64}$ "	4/102	6
99-25BP	48307	$\frac{5}{32}$ "	4/102	6
99-26BP	48309	$\frac{3}{16}$ "	4/102	6

## Screwdrivers – ballpoint Allen hex socket type

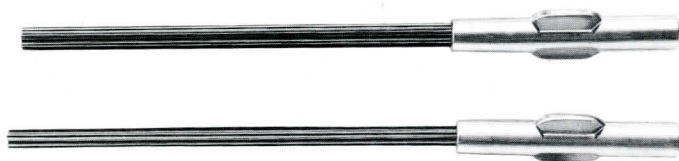
### Metric sizes




Cat. No.	N/S No.	 mm	Approximate working length mm	Shelf Pack
99-71MMBP	48330	1.27	102	6
99-72MMBP	48331	1.5	102	6
99-73MMBP	48332	2.0	102	6
99-74MMBP	48333	2.5	102	6
99-75MMBP	48334	3.0	102	6
99-76MMBP	48335	4.0	102	6
99-77MMBP	48336	5.0	102	6

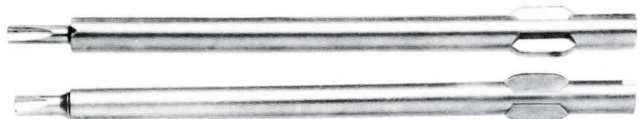



## Screwdrivers – Bristol 6-flute multiple spline



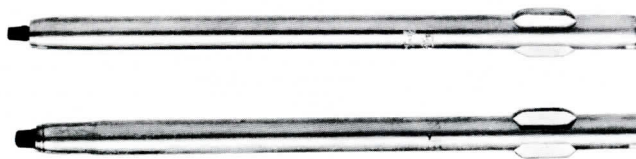
Cat. No.	N/S No.	Description	 /mm	Approximate working length "/mm	Shelf Pack
99-61	48314		0.048/1.22	4/102	6
99-62	48315		0.060/1.52	4/102	6
99-63	48316	4 flute	0.069/1.75	4/102	6
99-64	48317		0.072/1.82	4/102	6
99-65	48318	4 flute	0.076/1.93	4/102	6
99-66	48319		0.096/2.43	4/102	6
99-67	48320		0.111/2.82	4/102	6
99-68	48321		0.145/3.68	4/102	6
99-69	49322		0.183/4.65	4/102	6

## Screwdrivers – clutch head



Cat. No.	N/S No.	Description	 inches	Approximate working length "/mm	Shelf Pack
99-G-316	48220		$\frac{3}{16}$ "	3 $\frac{3}{8}$ /98	6
99-G-532	48221		$\frac{5}{32}$ "	3 $\frac{3}{8}$ /98	6


## Screwdrivers – scrulox



Cat. No.	N/S No.	Description	Approximate working length "/mm	Shelf Pack
99SL-0	48243	No. 0	4/102	6
99SL-1	48244	No. 1	4/102	6
99SL-2	48245	No. 2	4/102	6
99SL-3	48246	No. 3	4/102	6


## Reamer



Cat. No.	N/S No.	 " x " /mm x mm	Approximate working length "/mm	Shelf Pack
99-38	48312			
99-38V	48313	$\frac{1}{8}$ x $\frac{3}{8}$ /3.17 x 9.52	4 $\frac{1}{8}$ /105	6

## Extensions



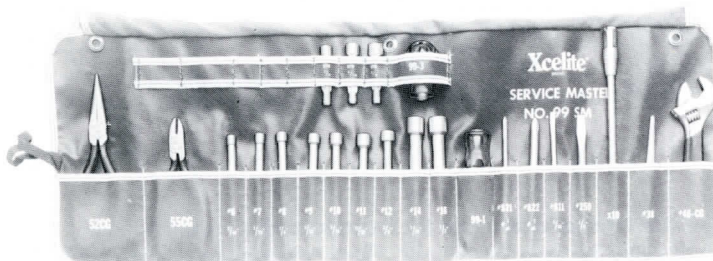
Cat. No.	N/S No.	Description	Approximate working length "/mm	 /mm	Shelf Pack
99-X5	48250	Adds	4/102	4/102	6
99-X5V	48251				
99-X10	48252	Adds	7/178	7/178	6
99-X10V	48706				



## Series 99 service kits

Series 99 service kits and sets are made up primarily of various screwdriver, nutdriver and other blades which can be used interchangeably in series 99 handles. All blades are high carbon steel with highly polished finish except Bristol and Allen Hex types which are precision formed, cold drawn, case hardened steel. Plastic handles have patented spring device that holds blades firmly, yet permits quick, easy insertion and removal. Regular handles accommodate all blades, single and reversible. Stubby, Tee and Ratchet handles can be used only with single-end blades.

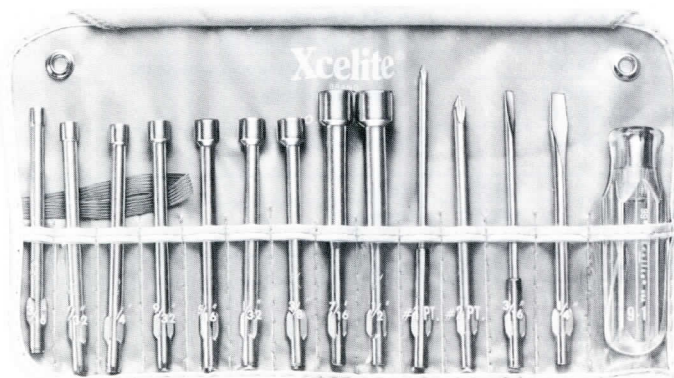
### 99SM Service master roll kit



Versatile twenty-three piece set of quality tools in a durable, roll-up plastic coated canvas case which weighs only 1247g/2 $\frac{3}{4}$ lbs. Provides a variety of quick change tools and tool combinations to speed up assembly and service work.

Cat. No.	N/S No.	Description "/mm	Shelf Pack
52CG	48154	6/152 Long nose cushion grip plier	6
55CG	48160	5/127 Diagonal cushion grip plier	6
46CG	48146	6/152 Thin-pattern cushion grip adjustable wrench	6
99-1	48253	Regular handle	6
99-3	48259	Stubby handle	6
99-6 to 99-16		Regular nutdrivers (9)	
99-S8, 99-S10, 99-S12		Stubby nutdrivers	
99-821, 99-822		Phillips screwdrivers	
99-811, 99-250		Slotted screwdrivers	
99-38	48312	Reamer	6
99-X-10	48252	Extension	6
99SM	48247	Complete roll kit	1
99SMK	48248	Canvas case	1

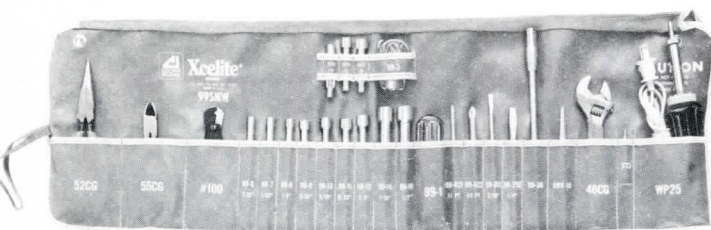
### 99PR Roll kit



Multi-purpose, fourteen piece nut and screwdriver set.

Cat. No.	N/S No.	Description	Shelf Pack
99-1	48253	Regular handle	6
99-6 to 99-16		Nutdrivers	
99-811, 99-250		Slotted screwdrivers	
99-821, 99-822		Phillips screwdrivers	
99PR	48226	Complete roll kit	1
99K	48222	Canvas case	1

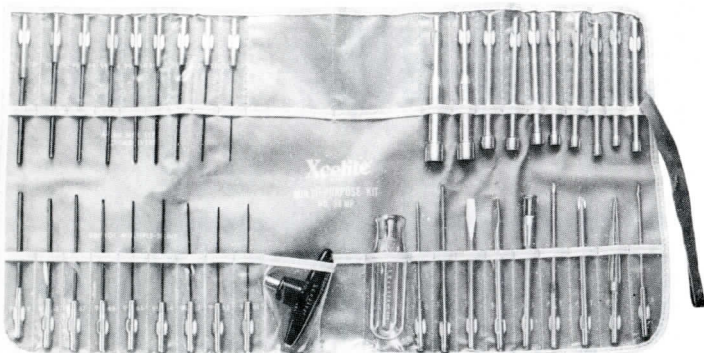
## 99SMW Service kit



Plastic-coated canvas case holds 26-piece set of handles and interchangeable screwdriver, nutdriver and other blades plus wire stripper and cutter and Weller soldering iron.

Cat. No.	N/S No.	Description	Shelf pack
WP25		Soldering iron	
ST3		Tip	
100-X	48356	Wire stripper and cutter	6
52-CG	48154	6" / 152mm Long nose cushion grip pliers	6
55-CG	48160	5" / 127mm Diagonal cushion grip pliers	6
46-CG	48146	6" / 152mm Thin-pattern cushion grip adjustable wrench	6
99-1	48253	Regular handle	6
99-3	48259	Stubby handle	6
99-6 to 99-16		Regular nutdrivers (9)	
99-821, 99-822		Phillips screwdrivers	
99-S8, 99-S10, 99-S12		Stubby nutdrivers	
99-811, 99-250		Slotted screwdrivers	
99-38	48132	Reamer	6
99-X-10	48252	Extension	6
99SMW	48684	Complete kit	1
99SMWK	48685	Canvas case	1

## 99MP Multi-purpose tool kit



All the most popular series 99 tools are readily available in this convenient thirty-nine piece kit. Plastic coated canvas case folds into a compact package which is quickly secured by means of a permanently attached loop. No tying required. Two extra pockets permit addition of pliers, snips or other tools.

Cat. No.	N/S No.	Description	Shelf pack
99-1	48253	Regular handle	6
99-4	48260	Tee handle	6
99-8M	48275	Magnetic nutdriver	6
99-6 to 99-16		Regular nutdrivers (9)	
99-20 to 99-26		Allen hex screwdrivers (9)	
99-61 to 99-69		Bristol multiple spline screwdrivers (9)	
99-125, 99-811, 99-250, 99-312		Slotted screwdrivers	
99-820, 99-821, 99-822		Phillips screwdrivers	
99-38	48312	Reamer	6
99-X5	48250	Extension	6
99MP	48223	Complete kit	1
99MPK	48224	Canvas case	1

## 99SL Scrulox screwdriver kit

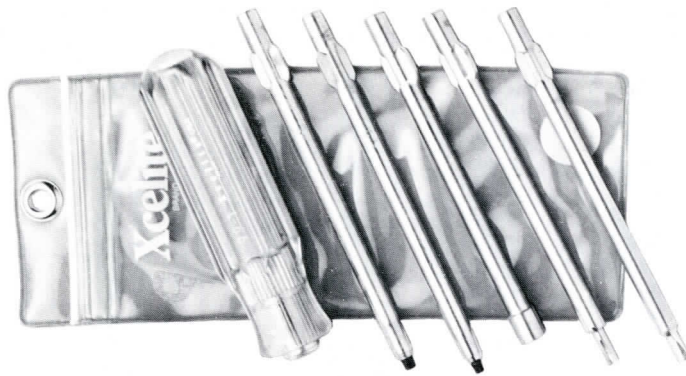


Plastic view case, 6 piece set.

Cat. No.	N/S No.	Description	Shelf pack
99-1	48253	Regular handle	6
99SL-0, 1, 2, 3		Scrulox screwdrivers	
99-250	48339	Slotted screwdriver	6
99SL	48242	Complete kit	1



## 99-TR-5 Interchangeable – blade tool kit



Basic maintenance kit contains 5 interchangeable series 99 blades which easily snap in and out of patented spring chuck in regular series 99 handle, yet are firmly retained. Packed in handy plastic view case. Handle and individual blades also available separately.


Cat. No.	N/S No.		Shelf Pack
99-1	48253	Regular handle	6
99-8	48274	$\frac{1}{4}$ " Hex socket nutdriver	6
99SL-1	48244	No. 1 Scrulox square recess screwdriver	6
99SL-2	48245	No. 2 Scrulox square recess screwdriver	6
99-G-316	48220	$\frac{3}{16}$ " Clutch-head screwdriver	6
99-G-532	48221	$\frac{5}{32}$ " Clutch-head screwdriver	6
99-TR-5	48249	Complete set	3

## Series 99 compact interchangeable-blade sets

### 99PS-40BP Ballpoint Allen hex socket type screwdriver set Inch sizes



Unique "ballpoint" tip ideal for tightening and removing Allen type socket head screws in spots where you can't reach them straight-on or want an easier, quicker way to drive them home. Will engage screw head from any angle. Slip easily into sockets and hold securely without reaming, because ends are precision machined to close tolerances. 9 blades  $4\frac{1}{10}$  1.60mm long, 99-X5 extension, and regular 99-1 handle in stand-up, see-through plastic case.

Cat. No.	N/S No.	Tip size	 /mm	Shelf Pack
99-20BP	48297	.050	4/102	6
99-21BP	48299	$\frac{1}{8}$	4/102	6
99-22BP	48301	$\frac{5}{16}$	4/102	6
99-23BP	48303	$\frac{3}{8}$	4/102	6
99-764BP	48343	$\frac{7}{8}$	4/102	6
99-24BP	48305	$\frac{1}{4}$	4/102	6
99-964BP	48355	$\frac{9}{16}$	4/102	6
99-25BP	48307	$\frac{5}{8}$	4/102	6
99-26BP	48309	$\frac{3}{4}$	4/102	6
99-1	48253	Regular handle	4/102	6
99-X5	48250	Extension	4/102	6
99PS-40BP	48229	Complete set		3
99PS-40BPV	48230	Complete set carded		3



### 99PS-41MMBP Ballpoint Allen hex socket type screwdriver set Metric sizes



Interchangeable blade ballpoint hex socket screwdriver set.

Approximate working length – 101.60mm.

Includes: – 7 drivers, 101.60mm 99-X5 extension, regular 99-1 handle, and flexible plastic, see-through stand-up case.



Cat. No.	N/S No.	 mm	 mm	Shelf Pack
99-71MMBP	48330	1.27	102	6
99-72MMBP	48331	1.5	102	6
99-73MMBP	48332	2.0	102	6
99-74MMBP	48333	2.5	102	6
99-75MMBP	48334	3.0	102	6
99-76MMBP	48335	4.0	102	6
99-77MMBP	48336	5.0	102	6
99-1	48253	Regular handle	102	6
99-X5	48250	Extension	102	6
99PS-41MMBP	48233	Complete set		3

## 99PS-40 Allen hex socket type screwdriver set

### Inch sizes



Eleven-piece set in compact see-through plastic case.

Cat. No.	N/S No.	 inches	 /mm	Shelf Pack
99-1	48253	Regular handle	—	6
99-20	48296	.050"	4/102	6
99-21	48298	$\frac{1}{16}$ "	4/102	6
99-22	48300	$\frac{3}{16}$ "	4/102	6
99-23	48302	$\frac{1}{4}$ "	4/102	6
99-764	48310	$\frac{5}{16}$ "	4/102	6
99-24	48304	$\frac{3}{8}$ "	4/102	6
99-964	48311	$\frac{7}{16}$ "	4/102	6
99-25	48306	$\frac{1}{2}$ "	4/102	6
99-26	48308	$\frac{5}{8}$ "	4/102	6
99-X5	48250	Extension	4/102	6
99PS-40	48227	Complete set	—	3
99PS-40V	48228	Complete set carded	—	3

## 99PS-41MM Compact, interchangeable blade Allen hex socket type screwdriver set


### Metric sizes



Approximate working length 101.60mm. Fits the hex socket screws shown below.

99-X5 Extension adds 101.60mm.

99-1 Handle 26.99mm x 104.78mm.



Cat. No.	N/S No.	 mm	Set screws mm	Socket head cap screws thread diameter mm	Flat head cap screws thread diameter mm
99-71MM	48323	1.27	2.6	1.4	—
99-72MM	48324	1.5	3	1.7.2	—
99-73MM	48325	2	4	2.3, 2.6	3
99-74MM	48326	2.5	5	3	4
99-75MM	48327	3	6	4	5
99-76MM	48328	4	8	5	6
99-77MM	48329	5	10	6	8
99-1	48253	—	Reg. handle	—	—
99-X5	48250	—	Extension	—	—
99PS-41MM	48231	—	Complete set	—	—

## 99PS-50 Screwdriver and nutdriver set

### Inch sizes



Thirteen-piece set in stand-up, plastic case with see-through cover.

Cat. No.	N/S No.	Description	 inches	 /mm	Shelf Pack
99-6	48269	Regular nutdriver	$\frac{3}{16}$ "	3 $\frac{5}{8}$ /92	6
99-7	48271	Regular nutdriver	$\frac{7}{32}$ "	3 $\frac{5}{8}$ /92	6
99-8	48274	Regular nutdriver	$\frac{1}{4}$ "	3 $\frac{5}{8}$ /92	6
99-9	48279	Regular nutdriver	$\frac{9}{32}$ "	3 $\frac{5}{8}$ /92	6
99-10	48282	Regular nutdriver	$\frac{5}{16}$ "	3 $\frac{5}{8}$ /92	6
99-11	48285	Regular nutdriver	$\frac{11}{32}$ "	3 $\frac{5}{8}$ /92	6
99-12	48288	Regular nutdriver	$\frac{3}{8}$ "	3 $\frac{5}{8}$ /92	6
99-811	48344	Slotted screwdriver	$\frac{3}{16}$ "	3 $\frac{7}{8}$ /98	6
99-250	48339	Slotted screwdriver	$\frac{1}{4}$ "	3 $\frac{7}{8}$ /98	6
99-821	48348	Phillips screwdriver	No. 1	3 $\frac{7}{8}$ /98	6
99-822	48350	Phillips screwdriver	No. 2	3 $\frac{7}{8}$ /98	6
99-X5	48250	Extension	—	4/102	6
99-1	48253	Regular handle	—	4/102	6
99PS-50	48223	Complete set	—	—	3
99PS-50V	48234	Complete set carded	—	—	3




## 99PS-51MM Compact, interchangeable shank, nutdriver set

### Metric sizes



Twelve-piece set in stand-up, plastic case with see-through cover.



Cat. No.	N/S No.	 mm	Approx. working length mm	Hex head cap screws thread diameter mm	Hex nuts thread diameter mm	Shelf Pack
99-4MM	48261	4	92.08	—	2	6
99-4.5MM	48262	4.5	92.08	—	2.3	6
99-5MM	48266	5	92.08	2.6	2.6	6
99-5.5MM	48267	5.5	92.08	3	3	6
99-6MM	48268	6	92.08	3.5	3.5	6
99-7MM	48272	7	92.08	4	4	6
99-8MM	48276	8	92.08	5	5	6
99-9MM	48280	9	92.08	—	—	6
99-10MM	48283	10	101.60	6	6	6
99-11MM	48286	11	101.60	7	7	6
99-1	48253	Regular handle	101.60	—	—	6
99-X5	48250	Extension	101.60	—	—	6
99PS-51MM	48235	Complete set	—	—	—	3
99PS-51MMV	48236	Complete set carded	—	—	—	3

## 99PS-60 Bristol multiple-spline socket type screwdriver set

### Inch sizes



Eleven-piece set in stand-up, plastic case with see-through cover.

Cat. No.	N/S No.	 "	 /mm	Shelf Pack
99-61	48314	.048	4/102	6
99-62	48315	.060	4/102	6
99-63	48316	.069	4/102	6
99-64	48317	.072	4/102	6
99-65	48318	.076	4/102	6
99-66	48319	.096	4/102	6
99-67	48320	.111	4/102	6
99-68	48321	.145	4/102	6
99-69	48322	.183	4/102	6
99-1	48253	Regular handle	4/102	6
99-X5	48250	Extension	4/102	6
99PS-60	48237	Complete set	—	3
99PS-60V	48238	Complete set carded	—	3

## Pliers and cutters

### With red cushion grip handles


The exceptional strength and performance of Xcelite pliers and cutters are the result of forged alloy steel construction, precision machining, and scientific proportioning. Handles are designed to fit the hand comfortably and to provide maximum leverage. Cleanly milled and perfectly aligned jaws grip tightly and surely while easy cutting is assured by hand-honed, mated cutting edges. For extra working comfort all models have permanent, red plastic-coated "Cushion-Grip" handles except Combination Slip Joint pliers.

## Diagonal pliers

### 54CG



Midget size for work at close quarters.

Cat. No.	N/S No.	 /mm	Shelf Pack
54CG	48158	4/102	6
54CGV	48159		

## 55CG



Pliers for most cutting needs.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
55CG	48160	5/127	6
55CGV	48161		

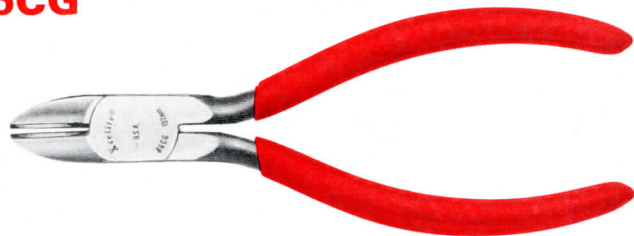
## 64CG



For fast, clean, easy tip cutting of fine wires in close quarters.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
64CG	48175	4/102	6
64CGV	48176		

## 66CG



All purpose diagonal pliers.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
66CG	48177	6/152	6
66CGV	48178		

## 67CG



Diagonal pliers for heavy duty cutting.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
67CG	48179	7/178	6
67CGV	48180		

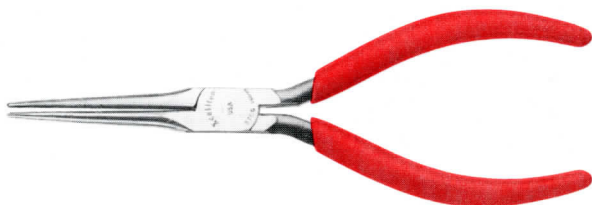
## Needle nose pliers 56CG



Long slim jaws permit entry inaccessible to regular long nose pliers.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
56CG	48162	6/152	6
56CGV	48163		

## 57CG



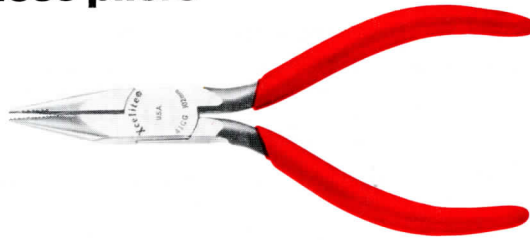
Pliers with fine serrated jaws and coil spring for firm gripping and looping of wire.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
57CG	48164	5½/140	6
57CGV	48165		



## Long nose pliers

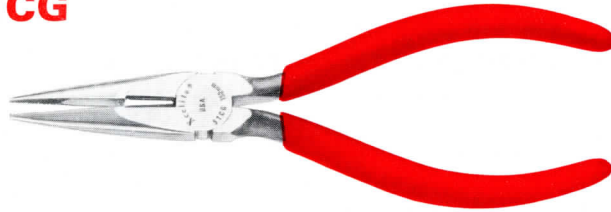
### 41CG



Midget pliers, serrated jaws, without side cutters.

Cat. No.	N/S No.	Length "/mm	Shelf Pack
41CG	48138	4/102	6
41CGV	48139		

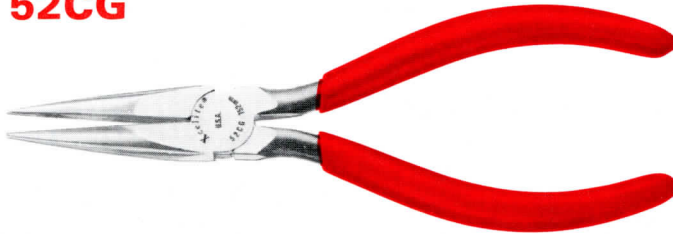
### 51CG



Long nose pliers with side cutters.

Cat. No.	N/S No.	Length "/mm	Shelf Pack
51CG	48152	6/152	6
51CGV	48153		

### 52CG

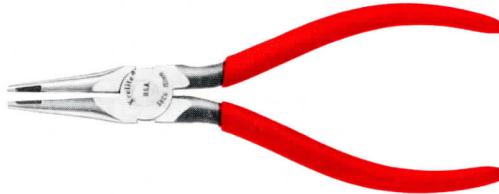


Long nose pliers without side cutters.

Cat. No.	N/S No.	Length "/mm	Shelf Pack
52CG	48154	6/152	6
52CGV	48155		

## Special purpose pliers

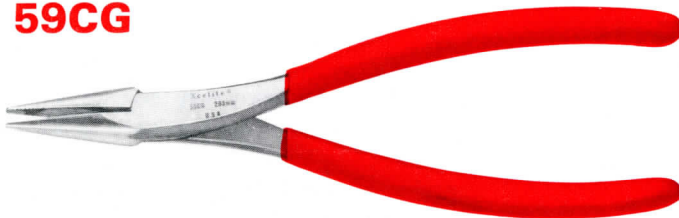
### 58CG



Special electronic pliers with extreme tip for gripping. Sharp  $\frac{5}{16}$ " / 8mm cutting edges  $\frac{3}{16}$ " / 4.7mm back from tip.

Cat. No.	N/S No.	Length "/mm	Shelf Pack
58CG	48166	6/152	6
58CGV	48167		

### 59CG



Chain nose electrician's pliers with long reach and high leverage.

Cat. No.	N/S No.	Length "/mm	Shelf Pack
59CG	48168	8/203	6
59CGV	48169		

## Utility pliers

### 50CG Ignition pliers



Midget slip joint with narrow jaws for close work. 3-jaw opening adjustment to  $\frac{1}{2}$ " / 12.7mm.

Cat. No.	N/S No.	Length "/mm	Opening "/mm	Shelf Pack
50CG	48150	5/127	$\frac{1}{2}$ / 12.7	6
50CGV	48151			

53CG Tongue and Groove pliers



All purpose pliers with 5-position forged rib lock design and serrated jaws. Maximum opening 1 1/8"/27mm.

Cat. No.	N/S No.	↔ "/mm	 "/mm	Shelf Pack
53CG	48156	7/178	1 1/8/27	6
53CGV	48157			

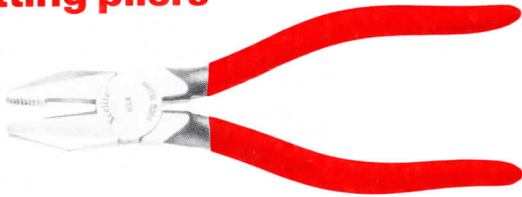
63CG Tongue and Groove pliers



Forged rib lock design and serrated jaws. Adjusts to 4 positions. Maximum opening 1 1/2"/38mm.

Cat. No.	N/S No.	↔ "/mm	 "/mm	Shelf Pack
63CG	48173	10/250	1 1/2/38	6
63CGV	48174			

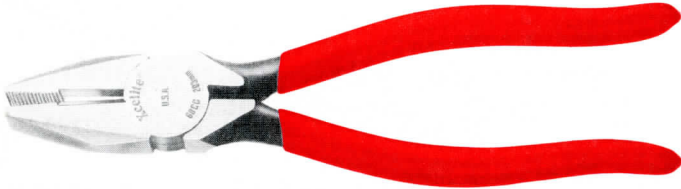
Side cutting pliers  
60CG



With serrated upper and lower jaws for firm gripping.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
60CG	48171	6/150	6
60CGV	48170		

68CG



With serrated jaws. Longer size gives firmer grip and more leverage for cutting heavy wire.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
68CG	48181	8/200	6
68CGV	48182		

Combination slip joint pliers

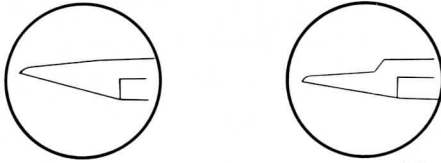


75C—Chrome-plated pliers in handy small size.  
76C—Chrome-plated pliers for general use.  
78C—Sturdy, chrome-plated pliers for heavy duty use.

Cat. No.	N/S No.	↔ "/mm	Shelf Pack
75C	48196	5/127	6
75CV	48197		
76C	48198	6/150	6
76CV	48199		
78C	48200	8/200	6
78CV	48201		

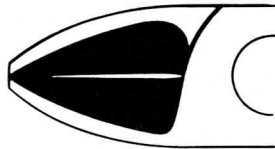


# How to select cutting pliers



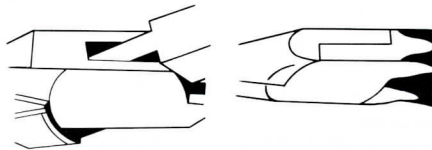
## Thickness of head

Head thickness determines the life of a cutting tool in much the same way as head shape. Thin cutters are often purchased for cosmetic reasons when a thicker cutter would do the job just as well. The same rule applies as in head shape. The cutter life is directly proportional to the thickness.



## Let there be light

High precision cutters are finished so that they will meet exactly at the point. If you hold a good pair of diagonal cutters up to the light you should see an increasing amount of light towards the back of the fulcrum of the cutter. Since most cutting is done at the tip, this increases cutter life by allowing the tips to continue to meet after some wear. Larger cutters (over 5" long) may meet all the way down the blade, as less tip cutting is done with larger cutters.



## Leverage ratio

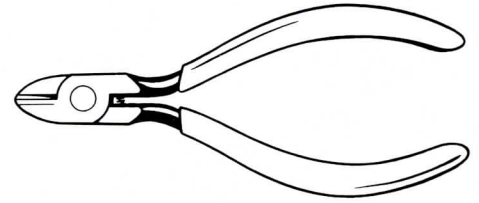
A pair of cutting pliers is a lever with the fulcrum point at the center of the joint. The mechanical advantage of the lever is expressed as a ratio by dividing length A into length B. Cutters with the largest mechanical advantage will generally last the longest.

## Cuts per dollar

Cutting pliers have only one purpose... to cut wire. Proper selection of cutters will insure that the tools in your plant will cut the wire you need to cut, where you need to cut it and most importantly, will give you the maximum number of cuts per dollar spent. Once the physical size and shape of a cutter have been determined by the mechanical aspects of the cutting problem, the economic justifications and selections should be based upon the number of cuts per dollar.

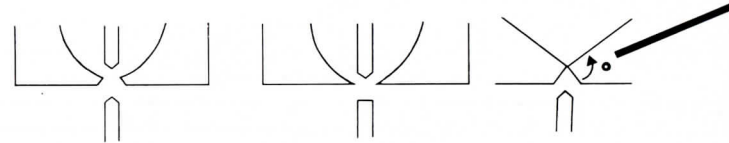
To determine the total cost of pliers, you should add the initial purchase cost to the cost of resharpening or repairing. Divide that number into the number of cuts you can expect to obtain (determined by test) and you will have a figure that will put all cutters into perspective.

Cuts per dollar will make your final determination, but on this page we offer some hints for cutter selection that will help you narrow down the number of cutters necessary to test.



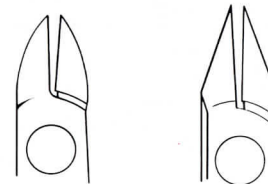
## Buy big

Probably the costliest mistake most often made in selecting cutters is to buy them too small. It is easy for a craftsman to be attracted to tiny precision cutters under 4" in length. Much electronic assembly work is done by women, and they seem to prefer a small cutter that "feels good" in their hand. However, the number of cuts obtainable from a cutter is almost directly proportional to the square of the weight of the cutting head. Allowing economical factors to put four inch cutters where five inch cutters will do the job, can reduce the number of expected cuts in half. Since four inch cutters cost more, the cuts per dollar ratio will be increased substantially. The rule of thumb is always the largest cutter that you can use for the job at hand.



## Angle of cutter

Most companies offer different cutting blades described as flush, full flush, regular, etc. This refers to the angle shown in the above illustration looking straight at the end of the cutter. Flush cutters are designed to reduce the amount of "pinch" left on the cut wire. They also tend to reduce the amount of shock transmitted up the wire to the component body. Flush cutters should only be specified where they are necessary for one of these purposes. A good rule of thumb here is the greater the angle Theta, the more cuts available from the tool.



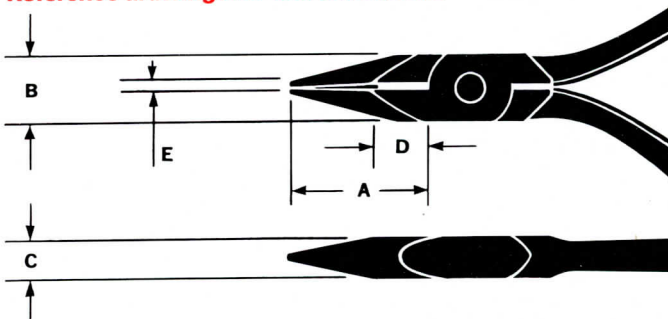
## Shape of head

Often, pointed or narrow head cutters are chosen for the same reasons that small cutters are popular. A pointed head, however, greatly reduces the expected life of the cutter. With cutters of the same size a round head will outlast a pointed head almost two to one. Pointed head cutters should be used only where necessary because of access problems to the work. The more material behind the cutting blade, the greater the number of cuts that can be expected.

## Miniature electronic pliers With blue cushion grip handles

These small, lightweight pliers are designed primarily for holding, bending and cutting fine wires in electronic, radio, TV, electrical and even jewelry work. Equipped with comfortable, plastic coated cushion grip handles and coil spring openers. All standard with blue cushion-grip handles, polished head end spring opening.

### Reference drawings for tool dimensions



## Short chain nose



These pliers are particularly designed for fine, close electrical and mechanical work. Ideal for electricians, jewelers, opticians and hobbyists.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	E " x "/mm x mm	Shelf Pack
162CG	48707	4 1/100	1 1/8/27	1 1/2/12	1/6	3/2 x 1/8/1.15 x 1.58	6
162CGV	48708						

## Short flat nose



These pliers are particularly designed for gripping and holding and so have no cutting edge.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	E " x "/mm x mm	Shelf Pack
70CG	48185	4 1/2/114	1 1/8/28	3/8/11	1/6	1/8 x 1/4/1.55 x 6	6
70CGV	48186						

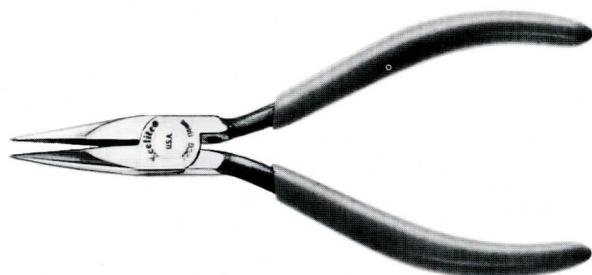
## Round nose wire loop



Carefully rounded on both sides of nose and precision ground to a fine point for looping and forming fine wires.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	Shelf Pack
71CG	48187	4 1/2/114	3/8/22	1 1/2/12	1/6	3/8/1.15 dia.	6
71CGV	48188						

## Midget chain nose

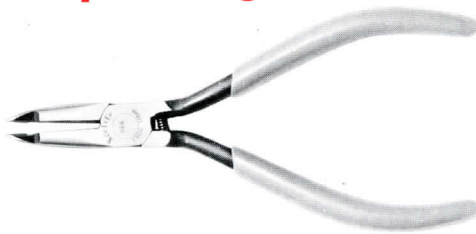


Slim streamlined pliers with fine serrations or smooth jaws plus slightly bevelled inside edges. Excellent for subminiature electronic assembly work. 72CG has plain jaws.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	E " x "/mm x mm	Shelf Pack
72CG	48189	4 1/2/114	1 1/8/28	7/8/11	1/6	3/4 x 1/8/1.18 x 1.58	6
72CGV	48190						
77CG	48709	4 1/2/114	1 1/8/28	7/8/11	1/6	3/4 x 1/8/1.18 x 1.58	6
77CGV	48710						



## Short nose tip cutting



45° angle tip cutter with semi-flush edge for cutting in restricted areas in electronic components and for trimming printed circuit boards.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	Shelf Pack
73CG	48192	4 1/2/114	1/25	7/8/11	1/6	3/2/6	6
73CGV	48193						

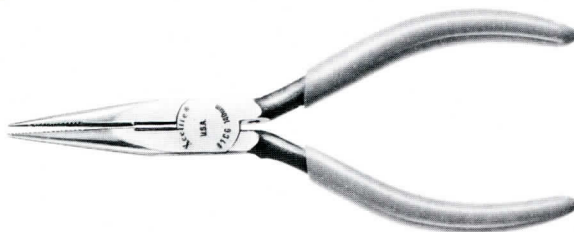
## Thin bent nose



5" / 125mm pliers with fine serrated jaws. 60° angle thin bent nose for handling fine wire in close quarters.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	Shelf Pack
79CG	48202	5/127	1/25	7/8/11	5/8/8	1/8/1.58	6
79CGV	48203						

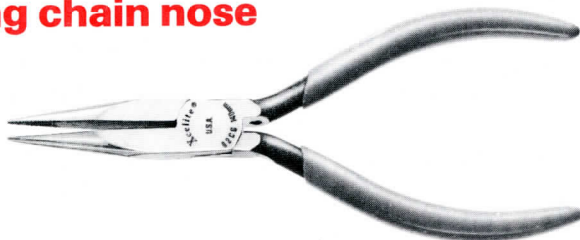
## Long chain nose with side cutter



Spring tempered, fine serrated jaws with hardened jaw surfaces and electronically hardened cutter edges are ideal for electronic sub-assembly work.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	E "/mm	Shelf Pack
81CG	48206	5 1/2/140	1 3/4/44	1 1/2/13	3/2/7	1 3/2/10	1/8/1.58	6
81CGV	48207							

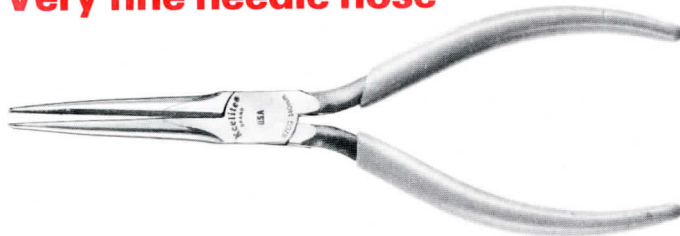
## Long chain nose



Spring tempered, fine serrated jaws with slightly bevelled inside edges are specially designed for gripping small wire components.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	Shelf Pack
82CG	48208	5 1/2/140	1 3/4/44	1 1/2/5	3/2/7	1/8/1.58	6
82CGV	48209						

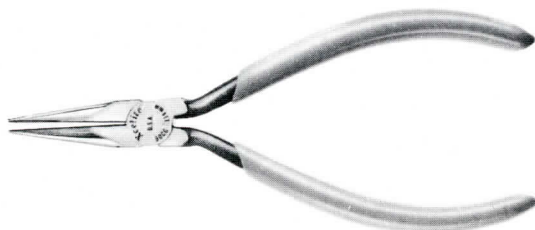
## Very fine needle nose



Fine serrations on jaws. 1" / 25mm nose length. Slightly bevelled inside edges.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	Shelf Pack
87CG	48712	5 1/2/140	1 1/8/48	1 1/2/12	1/6	5/8/1.70	6
87CGV	48713						

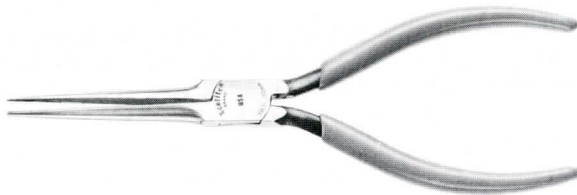
## Extra thin long needle nose



Spring tempered jaws, precision machined to a fine point. Plain jaws. Slightly bevelled inside edges.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "x"/mm x mm	Shelf Pack
90CG	48714	4 1/2/114	1 1/8/28	7/8/11	1/6	3/8 x 1/8/1.18 x 1.58	6
90CGV	48715						

Extra thin long needle nose



Spring tempered jaws, precision machined to  $\frac{5}{64}$ " /2mm at the extreme tip. Fine serrated jaws. Slightly bevelled inside edges.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	E "/mm	Shelf Pack
91CG	48716	6/150	2 $\frac{1}{2}$ /60	$\frac{1}{2}$ /12	$\frac{1}{4}$ /6	$\frac{5}{64}$ /1.90 dia.	6
91CGV	48717						

Tip cutter wiring



For delicate, intricate, sub-assembly work. Fine serrated tips. Hardened cutting edge near top for snap cutting No. 22 gauge (0.025" dia.) and smaller soft copper wire.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	E " x "/mm x mm	Shelf Pack
92CG	48718	4 $\frac{1}{2}$ /114	1 $\frac{1}{8}$ /28	$\frac{7}{16}$ /11	$\frac{1}{4}$ /6	$\frac{5}{32}$ /4	$\frac{3}{16}$ x $\frac{3}{32}$ /1.18 x 2.38	6
92CGV	48719							
69CG	48183	5/127	1 $\frac{5}{16}$ /29	$\frac{1}{2}$ /13	$\frac{5}{16}$ /8	$\frac{1}{4}$ /6	$\frac{1}{16}$ x $\frac{3}{32}$ /1.58 x 2.38	6
69CGV	48184							

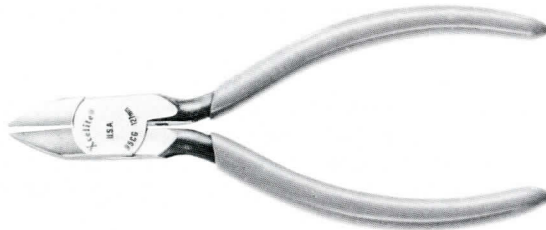
Cutting and looping



For cutting and forming wire. Cutter near tip for cutting No. 20 gauge (.032" dia.) and smaller soft copper wire.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	E " x "/mm x mm	Shelf Pack
94CG	48720	6/150	1 $\frac{3}{8}$ /30	$\frac{1}{16}$ /17	$\frac{1}{32}$ /9	$\frac{1}{4}$ /6	$\frac{3}{32}$ x $\frac{5}{32}$ /2.38 x 3.96	6
94CGV	48721							

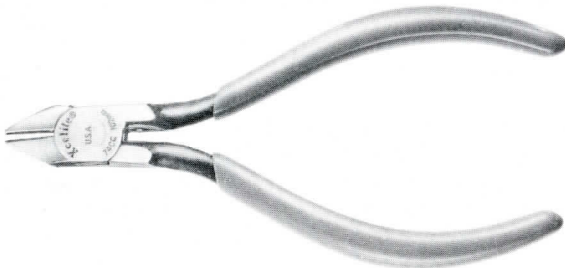
Special taper nose diagonal



Slim taper nose design with semi-flush cutting edges for heavy duty work in electronics industry. Specially designed for close quarters tip cutting.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	Shelf Pack
95CG	48214	5/127	$\frac{1}{16}$ /17	$\frac{3}{16}$ /14	$\frac{3}{8}$ /10	6
95CGV	48215					

Midget semi-flush cutting

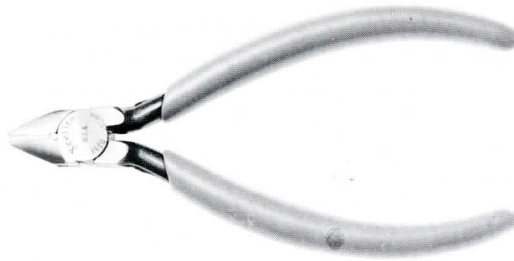


Precision honed flush-edges and back clearance fine tapered nose designed for close cutting No. 24 gauge (0.020" dia.) and smaller soft copper wire. The very fine tapered nose with back taper at extreme tip is ideal for delicate electronic circuitry work.

Cat. No.	N/S No.	Overall Length "/mm	A "/mm	B "/mm	C "/mm	Shelf Pack
74CG	48194	4/100	$\frac{1}{32}$ /12	$\frac{1}{16}$ /11	$\frac{1}{4}$ /6	6
74CGV	48195					



## Midget full-flush cutting



Fine tapered nose with back taper at extreme tip. Full-flush cutting edges for cutting No. 20 gauge (.032" dia.) and smaller soft copper wire. Snap cuts at extreme tip.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	Shelf Pack
84CG	48211	4/100	1 1/32/12	3/16/11	1/6	6
84CGV	48210					

## Midget diagonal



Slim round nose design with electronically hardened edges. Most-used regular small diagonal cutting pliers for fine work. Will cut No. 20 gauge (.032" dia.) and smaller soft copper wire.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	Shelf Pack
98CG	48722	4/100	1/2/13	3/16/11	1/6	6
98CGV	48723					

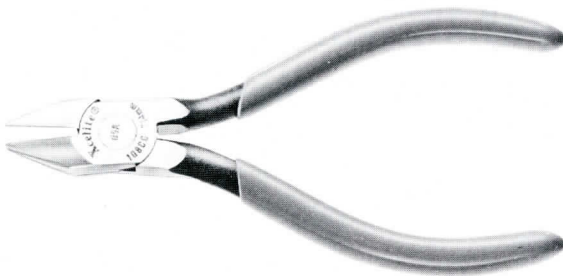
## Standard diagonal



Small round nose diagonal cutting plier with electronically hardened edges. Primarily for general purpose cutting in the electronics industry.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	Shelf Pack
106CG	48724	4 1/2/114	1 1/8/17	1 1/2/12	1 1/2/9	6
106CGV	48725					
107CG	48726	5/127	1 1/8/17	3/8/14	3/8/10	6
107CGV	48727					

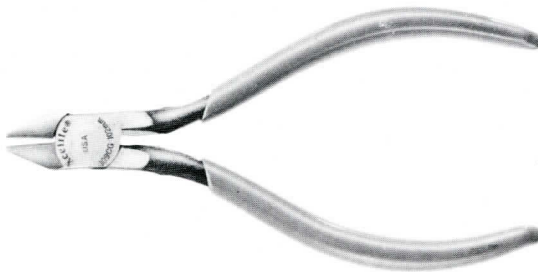
## Diagonal full-flush cutting



Tapered nose diagonal pliers with back clearance for use in confined areas. Hand-honed full-flush edges with back taper at extreme tip. Heavy pattern joint for long life. Ideal for printed circuit and other electronic applications. Will cut No. 20 gauge (.032" dia.) and smaller soft copper wire.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	Shelf Pack
108CG	48728	4 1/2/114	1 1/8/17	1 1/2/12	1 1/2/9	6
108CGV	48729					

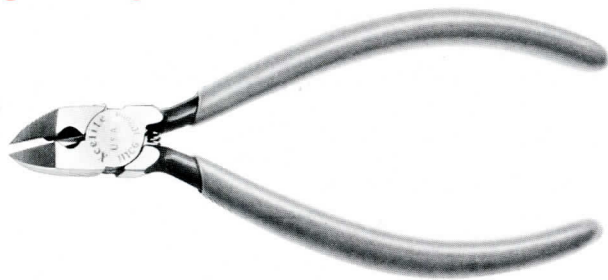
## Diagonal cutting



Precision honed flush-edges and back clearance. Fine tapered nose designed for close cutting No. 24 gauge (.020" dia.) and smaller soft copper wire. The very fine tapered nose with back taper at extreme tip is ideal for delicate electronic circuitry work.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	Shelf Pack
109CG	48730	4/100	1 1/32/12	3/16/11	1/6	6
109CGV	48731					

Midget angled flush cutting



Electronically hardened edges, polished head. Deep throated pliers enable longer pieces of wire to be cut. Edges are full flush and are recommended for snap-cutting soft non-ferrous wire. Back of pliers is angled at 29° for cutting ease in difficult areas.

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	D "/mm	Shelf Pack
111CG*	48857	4/100	7/8/11	7/8/11	1/6	3/8/9.5	6
111CGV	48858						

Stainless diagonal cutting



Made of the same type of stainless steel used for the finest surgical instruments, this pliers design is a completely new cutting tool. Cutting edges are machine ground to achieve a precise angle for continuous snap cutting. Designed for cutting and trimming circuit boards and lead wires on capacitors and other electronic components. Standard with blue cushion-grip handles, satin finish head and shoulders and spring opening.  
Maximum cutting specifications:  
Soft non-ferrous wire: .032" (8mm) dia.  
Soft steel wire .018 dia (45mm).

Cat. No.	N/S No.	Length "/mm	A "/mm	B "/mm	C "/mm	Shelf Pack
110CG	48711	4/100	1 1/2/12	7/8/11	3/2/7	6
110CGV	48733					

Electronic shears with cushion grip handles  
96CG



5" /127mm professional quality shears whose light weight (4oz/113gm) and sharp durable cutting edges permit easy flush-cutting of wire up to 14AWG. Comfortable grips and positive spring action enhance speed and efficiency of production or servicing without operator fatigue. Slim-line contour of cutting tips provides easy access to tight work areas.

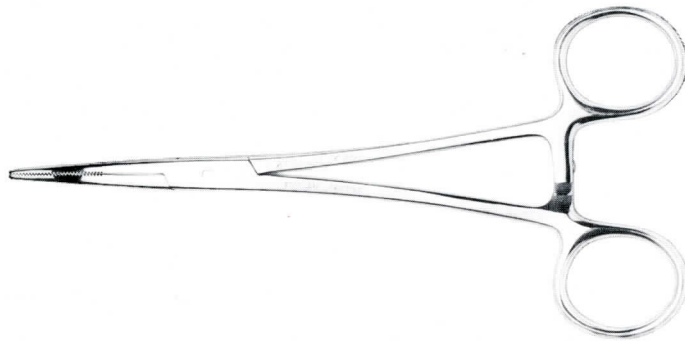
Identical to 96CG, but including special "Klip Grip" which holds cut-off wires, promoting safety and cleaner work area.

Cat. No.	N/S No.	Length "/mm	Shelf Pack
96CG	48216	5/127	6
96CGV	48217		
97CG	48218	5/127	6
97CGV	48219		



## Special tools for special problems

### Seizer

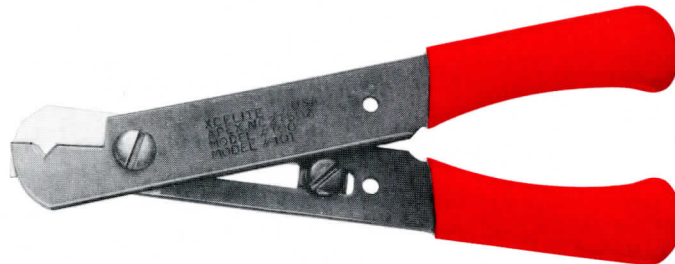


Versatile tool with unusual holding qualities. Clamps firmly to hold wires for soldering, acts as a heat sink – and retrieves small parts from hard-to-reach places. Seizers have 3-position snap lock, serrated jaws and box-joint construction. Precision machined from perfectly tempered stainless steel.

Cat. No.	N/S No.	Description	Shelf Pack
32H	48134	Straight nose jr. seizer, smooth jaws	6
32HV	48135		
33H	48136	Curved nose jr. seizer, smooth jaws	6
33HV	48137		
42H	48140	Straight nose seizer, serrated jaws	6
42HV	48141		
43H	48142	Curved nose seizer, serrated jaws	6
43HV	48143		

## Wire strippers and cutters with cushion grip handles

### 100X



Has adjustable screw stop for different wire sizes. Cuts and strips both solid and stranded wire cleanly, neatly. Hardened with ground blades. 101-S-specifications same as 100X except with spring-equipped self-opening handles.

Cat. No.	N/S No.	Description	Wire Size "/mm	Shelf Pack
100X	48356	Stripper, cutter	5/127	6
100XV	48357			
101-S	48358	Stripper, cutter-spring opening	5/127	6
101-SV	48359			

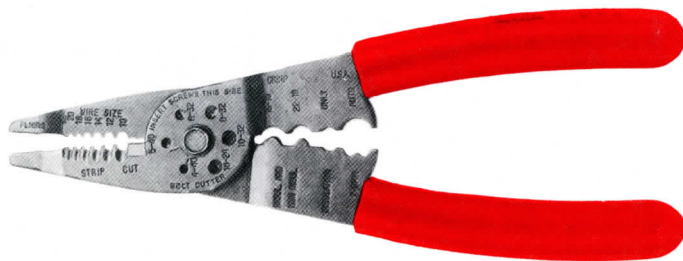
### 103-S



Unique cam stop adjustment for different wire sizes. Cam adjustment stays put, will not move, even with screw loose. Fine for industrial use.

Cat. No.	N/S No.	Wire Size "/mm	Shelf Pack
103-S	48360	5¼/133	6
103-SV	48361		

## 104CG wire stripper and cutter



Cutter stripper and crimper for all types and sizes of wire, with a wide size-range bolt cutter. Features scissors action up-front wire cutting and wire stripping, bolt cutters, cushion grips, pliers nose, hardened pivot joint bushing and crimp stations.

Cat. No.	N/S No.	Wire Size "/mm	Shelf Pack
104CG	48682	8¼/210	6
104CGV	48683		

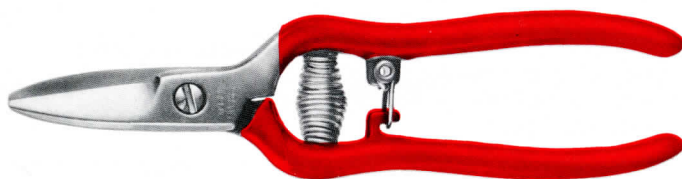
## 105CG Electrical pliers



Wire cutting and stripping edges are conveniently located in front of the pivot to allow use in tight places. Serrated edge, needle nose pliers add wire pulling and bending capability to the tool. Scissor-action stripper cams insulation for cleaner, faster, more accurate stripping. 105SCG has work-speeding automatic spring.

Cat. No.	N/S No.	Description	Length " /mm	Shelf Pack
105CG	48697	Stripper, cutter	6/150	6
105CGV	48698			
105SCG	48699	Stripper, cutter-spring opening	6/150	6
105SCGV	48700			

## Snips



86CG – electronic snip. Shearing action of  $1\frac{1}{2}$ " /38mm cut pointed blades prevents peaks on fine wires and filaments. Useful also for removing insulation and cutting light sheet metal. Coil spring opens blades, latch holds them closed. Cushion-grip handles.

Cat No.	N/S No.	Length " /mm	Blade " /mm	Shelf Pack
86CG	48212	$6\frac{1}{2}$ /165	$1\frac{1}{2}$ /38	6
86CGV	48213			

## XL-70 Offset ratchet screwdriver set



19 piece midget reversible ratchet offset all-purpose screwdriver set. Simple and easy-to-use in all kinds of assembly, disassembly, adjustment and repair work involving Allen hex, Phillips and slotted screws.

All driver bits:  $\frac{1}{4}$ " /6mm hex shank.

Cat. No.	N/S No.	Size " /mm	Description	Shelf Pack
XL-3	48650	.050/1.27	Allen hex screw bit	6
XL-4	48651	$\frac{1}{16}$ /1.54	Allen hex screw bit	6
XL-5	48652	$\frac{5}{64}$ /1.98	Allen hex screw bit	6
XL-6	48653	$\frac{3}{32}$ /2.38	Allen hex screw bit	6
XL-7	48654	$\frac{7}{64}$ /2.78	Allen hex screw bit	6
XL-8	48655	$\frac{1}{8}$ /3.17	Allen hex screw bit	6
XL-9	48656	$\frac{9}{64}$ /3.57	Allen hex screw bit	6
XL-10	48657	$\frac{5}{32}$ /3.97	Allen hex screw bit	6
XL-12	48658	$\frac{3}{16}$ /4.76	Allen hex screw bit	6
XL-14	48659	$\frac{7}{32}$ /5.56	Allen hex screw bit	6
XL-16	48660	$\frac{1}{4}$ /6	Allen hex screw bit	6
XL-17	48661	$\frac{1}{4}$ /6	Slotted screw bit	6
XL-18	48662	$\frac{5}{16}$ /7.94	Allen hex screw bit	6
XL-20	48663	No. 1	No. 1 Phillips screw bit	6
XL-21	48664	No. 2	No. 2 Phillips screw bit	6
XL-24	48665	$6\frac{1}{4}$ /6 hex to $\frac{1}{4}$ /6 square	Adaptor bit	6
XL-25	48666	$\frac{1}{4}$ /4.76	Slotted screw bit	6
XL-27	48667	—	Reversible ratchet	6
XL-50	48668	—	Spinner-extension	6
XL-70	48669	—	Complete set	1



## XL-75 Offset ratchet screwdriver set




Five-piece set in see-through plastic pouch.  
All driver bits:  $\frac{1}{4}$ " / 6mm hex shank.

Cat. No.	N/S No.	Description	Shelf Pack
XL-25	48666	Slotted screw bit $\frac{3}{8}$ " / 4.76mm	6
XL-17	48661	Slotted screw bit $\frac{1}{4}$ " / 6mm	6
XL-20	48663	Phillips screw bit No. 1	6
XL-21	48664	Phillips screw bit No. 2	6
XL-27	48667	Reversible ratchet arm	6
XL-75	48670	Complete set	1
XL-75V	48671	Complete set vacuum packed	1

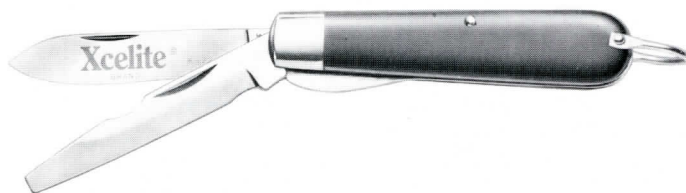
## Adjustable wrenches



Xcelite's exclusive thin-pattern design permits access where regular adjustables will not fit. Rugged construction, chrome-plated heads, with quick, one-hand adjustments. Cushion-grip handle.

Cat. No.	N/S No.	$\leftarrow L \rightarrow$ "/mm	 "/mm	Shelf Pack
44CG	48144	4/100	$\frac{1}{2}$ /13	6
44CGV	48145			
46CG	48146	6/150	$\frac{3}{4}$ /19	6
46CGV	48147			
48CG	48148	8/200	$1\frac{1}{8}$ /23.81	6
48CGV	48149			

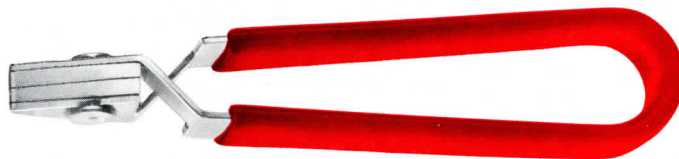
## Electrician's knife



Both a knife and a screwdriver. Screwdriver blade has sharp edge for scraping insulation.

Cat. No.	N/S No.	Shelf Pack
K22	48423	6
K22V	48424	

## Heat sink



Protects transistors and other delicate electronic components from heat during soldering. Tool has copper jaws for greatest possible heat absorption and dissipation; solder won't stick to nickel plated finish. Positive no-slip spring tension action with cushion-grip.

Cat. No.	N/S No.	$\leftarrow L \rightarrow$ "/mm	Shelf Pack
80	48204	$3\frac{1}{8}$ /80	6
80V	48205		
80D	Display card contains twelve Number 80 heat sinks.		6

## Tool holster

(Tools not included)



150 (48364) Tool holster has tape holder, knife clip and five tool pockets. Made of durable saddle leather with natural cowhide finish.

## Tweezers



Sharp point



Cross lock



Cross lock



Curved



Straight



Round point

Cat. No.	N/S No.	Length " /mm	Description	Shelf Pack
XHT-434	48763	4 3/4 / 121	Smooth sharp points	6
XHT-412	48762	4 1/2 / 115	Self closing, smooth sharp points for holding work	6
XHT-612	48765	6 / 165	Self closing, especially good for soldering and gluing	6
XHT-678	48766	6 5/8 / 174	For better view of close work for hard to reach places	6
XHT-700	48767	7 / 178	Slender tapered point to fit in tight places	6
XHT-600	48764	6 / 152	Serrated points for sure grips opens to 3/4" / 19mm width	6

## Precision Knives and Blades

A fine selection of 6 knives from light-weight to heavy duty for the professional and hobbyist alike. Precision made for durable life. Interchangeable blades held firm in sure-locking four jaw chuck. Stay sharp blades are made from surgical steel and honed for closest cutting and long lasting edge.

## Knives Swivel blade

Free moving swivel for easy cutting of curves in lightweight material.



Cat. No.	N/S No.	Length " /mm	Type of blade	Shelf Pack
XN-400	48773	5 1/8 / 129	XN-401	6



## Light Duty



Designed for light-duty cutting on paper, soft and lightweight materials or wood.

Cat. No.	N/S No.	Blade Length " /mm	Type of blade	Shelf Pack
XN-100	48768	5 $\frac{1}{8}$ / 148	XNB-103	6

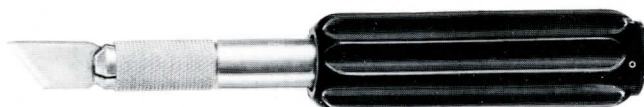
## Medium Duty



For heavy paper and medium density materials.

Cat. No.	N/S No.	Blade Length " /mm	Type of blade	Shelf Pack
XN-200	48769	5 $\frac{3}{8}$ / 146	XNB-205	6

## Heavy Duty Plastic Handle



For working with hardwood, plastic and other difficult to cut materials.

Cat. No.	N/S No.	Blade Length " /mm	Type of blade	Shelf Pack
XN-210	48770	5 $\frac{7}{8}$ / 137	XNB-201	6

## Carving



The best choice for detailing and sculpting in wood. Comfort grip handle gives excellent control, accepts all carving blades.

Cat. No.	N/S No.	Blade Length " /mm	Type of blade	Shelf Pack
XN-300	48772	5 $\frac{5}{8}$ / 144	XNB-301	6

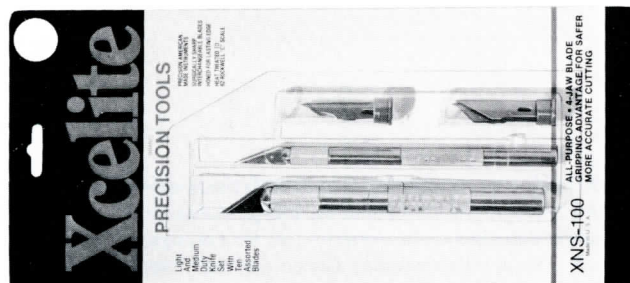
## Heavy duty metal handle



For those who prefer a metal handled knife cuts through hardwood, plastic, etc.

Cat. No.	N/S No.	Blade Length " /mm	Type of blade	Shelf Pack
XN-220	48771	5 $\frac{1}{2}$ / 140	XNB-201	6

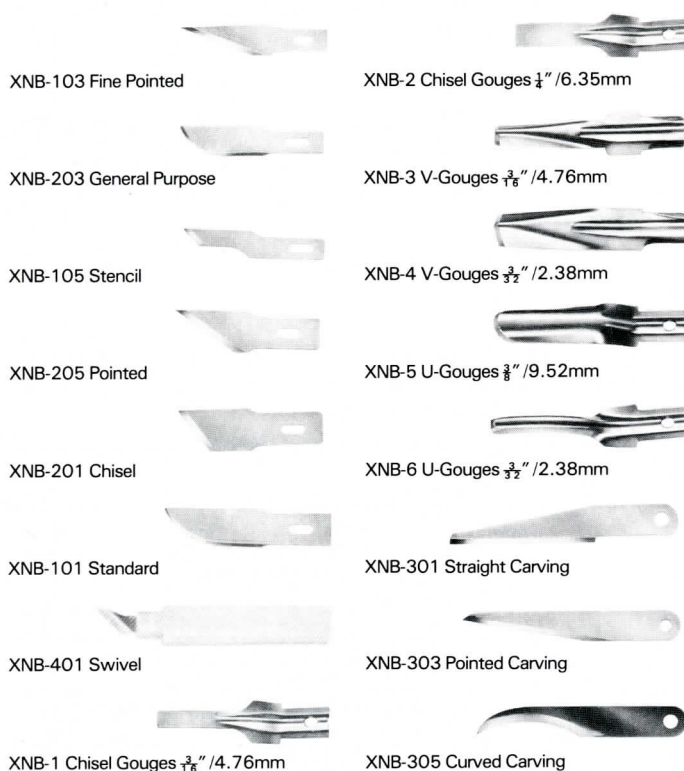
## Light and medium duty knife set



Complete with 10 assorted blades. For a wide range of cutting operations.

Cat. No.	N/S No.	Contains	Shelf Pack
XNS-100	48774	XN-100 and XN-200	6

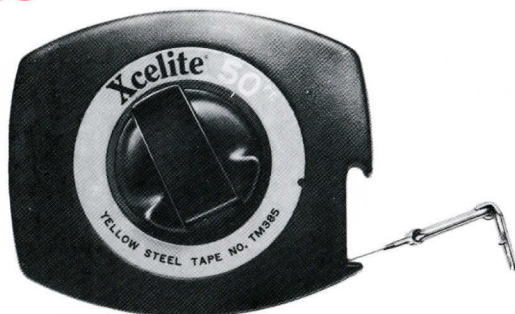
## Blades




All blades are safely packed in transparent plastic containers and carded. Number of blades per container shown in tables. Blades are interchangeable with other similar knives.

Cat. No.	N/S No.	Qty.	Description	Fits Knife	Shelf Pack
XNB-103	48776	5	For most detailed cutting and stripping	XN-100	6
XNB-203	48779	5	For most cutting requirements	XN-200/210/220/300	6
XNB-105	48777	5	For scoring and etching as well as stencil cutting	XN-100	6
XNB-205	48780	5	For close corner cuts on templates, mates, gaskets, also trimming, stripping and de-burring	XN-200/210/220/300	6
XNB-201	48778	5	Rough shaping de-burring and chiseling	XN-220/210/220/300	6
XNB-101	48775	5	General duty for cutting, carving and correcting stencils	XN-100	6
XNB-401	48781	5	For papercraft including decoupage and cutting film, masks, wherever the finest cuts are needed	XN-400	6
XNB-1	48786	2	For general carving	XN-300	6
XNB-2	48787	2	Stay-sharp edge for carving	XN-300	6
XNB-3	48788	2	Carves a "V" trough	XN-300	6
XNB-4	48789	2	For deeper "V" trough cuts	XN-300	6
XNB-5	48790	2	For deeper "U" trough gouges	XN-300	6
XNB-6	48791	2	For light "U" trough gouges	XN-300	6
XNB-301	48783	2	For general purpose carving	XN-300	6
XNB-303	48784	2	For accurate carving details	XN-300	6
XNB-305	48785	2	For smoothing and shaping	XN-300	6
XNB-800	48782	10	Single edge razor blades	—	6

## Xcelite long tape TM-385



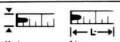
50-foot yellow, epoxy-coated, steel tape with easy-to-read black graduations in feet, inches, and  $\frac{1}{8}$ th inches. Lightweight, high-impact, plastic case is extremely rugged to resist on-the-job jolts, and has smooth-winding nylon reel. End hook folds flush into unique case recess to prevent snagging.

Cat. No.	N/S No.		Shelf Pack
TM-385	48633	50'/15m	1

## Xcelite short tapes TM-120

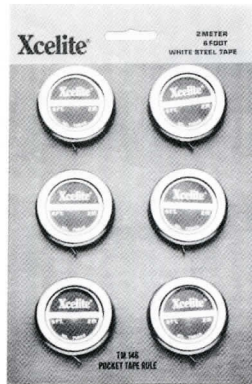


A 3-meter/10 foot, professional, rule with black-on-white minimum graduations in millimeters and  $\frac{1}{32}$  inches on  $\frac{1}{2}$ " wide steel tape. Spring clip permits hooking on belt for convenient carrying and quick access when needed. Chrome-plated, break-resistant plastic case.

Cat. No.	N/S No.		Shelf Pack
TM-120	48632	$\frac{1}{2}$ " / 13mm x 10'/3m	6



## TM-146



2-meter/6 foot black-on-white rule in super-compact attractive black and chrome-plated metal case. Quick, accurate measurements anywhere, with minimum graduations in millimeters and  $\frac{3}{16}$  inches on  $\frac{1}{4}$ " wide steel tape. Packaged 6 to a card for pegboard display.

Cat. No.	N/S No.		Shelf Pack
TM-146	48631	$\frac{1}{4}$ " / 6mm x 6' / 2m	1

## TKX-11 Multi-Purpose Tool Kit



The versatile kit contains 11 quality tools, perfect for all types of routine repair and simple do-it-yourself projects. Everything comes neatly packaged in an attractive, easy to store case.

Cat. No.	N/S No.	Description	Shelf Pack
R144	48540	$\frac{1}{4}$ " x 4" / 101mm Round Blade Screwdriver	6
R184	48549	$\frac{1}{8}$ " x 4" / 101mm Round Blade Screwdriver	6
X101	48639	No. 1 Phillips x 3" / 76mm Screwdriver	6
8	48700	$\frac{1}{4}$ " Hex Nutdriver	6
P12S	48485	No. 0 Phillips x 2" / 51mm Screwdriver	12
51CG	48152	6" / 152mm Long Nose Pliers with Side Cutter	6
46CG	48146	6" / 152mm Adjustable Wrench	6
S-141	48585	$\frac{1}{4}$ " x $1\frac{1}{4}$ " / 32mm Stubby Square Blade Screwdriver	6
100-X	48356	Wire Stripper & Cut Adj. Screw Top	6
TM-120	48632	$\frac{1}{2}$ " / 13mm x 10' / 3048mm Metric/English Tape Rule	6
76C	48198	6" / 152mm Combination Pliers. Chrome Plated	6
TKX-11	48737	Complete tool kit	3

# Xcelite attaché tool cases

## For technicians, servicemen, and field engineers

Choice of three sturdy, spacious and attractive attaché style tool cases to meet virtually every need. Each an ideal assortment and arrangement of Xcelite's quality, professional hand tools neatly mounted in pockets on removable, vinyl covered pallets and trays, plus generous space for individualized selection of test instruments, parts boxes, Weller soldering gun and iron, Xcelite measuring tapes, and other tools. Roomy file pocket in lid for service manuals, circuitry diagrams, and literature. Dovetailed, solid wood frame.

### Model TC-100/ST (48627)



Largest, most elaborate of the three cases. Contains 53 individual tools, plus 31 Series 99 interchangeable screwdriver/nutdriver blades and handles, and two specialized screwdriver/nutdriver kits, as listed. Case covered with attractive, tough, chesnut-brown, leather-grain Marvelon. Removable three-panel, hinged pallet and tray outfitted with elastic loop and plastic pocket tool holders. Solid brass locks, latches, and hardware. Padded handle. Partitioned bottom compartment for other tools. Size: 9½" / 495mm x 13½" / 343mm x 6¾" / 171mm.

#### Interchangeable screwdrivers, nutdrivers, other tools and handles: —

Cat. No.	Description
1 x 99-1	Handle — regular
1 x 99-1-R	Handle — regular
1 x 99-4-R	Handle — Tee ratchet
1 x 99-X5	Extension
1 x 99-X10	Extension
1 x 99-38	Reamer
1 x 99-125	Slotted screw blade
1 x 99-250	Slotted screw blade
1 x 99-312	Slotted screw blade
1 x 99-811	Slotted screw blade
1 x 99-820	Phillips screw blade
1 x 99-821	Phillips screw blade
1 x 99-822	Phillips screw blade
1 x 99-61 through 69	Bristol 6-flute multiple spline blades (9)
1 x 99-20 through 26	Allen hex-socket type blades (7)
1 x 99-764	Allen hex-socket type blade
1 x 99-964	Allen hex-socket type blade

#### Pliers, wrenches, cutters:-

Cat. No.	Description
1 x 42H	Straight nose seizer
1 x 46CG	Adjustable wrench 6" / 152mm
1 x 50CG	Midget slip joint pliers 5" / 127mm
1 x 51CG	Long nose pliers 6" / 152mm
1 x 53CG	Utility pliers 7" / 178mm
1 x 54CG	Diagonal pliers 4" / 101mm
1 x 66CG	Diagonal pliers 6" / 152mm
1 x 57CG	Needle nose pliers 5½" / 139mm
1 x 59CG	Chain nose pliers 8" / 203mm
1 x 86CG	Electronic snips
1 x 103-S	Wire stripper/cutter
1 x K22	Electrician's knife

#### Sets and Kits

Cat. No.	Description
1 x M-60	Mini drivers
1 x XL-75	Offset ratchet screwdrivers
1 x 600	Combination screwdriver-nutdriver tool
1 x SB1	Dual reversible screwdriver blade

#### Screwdrivers

Cat. No.	Description
1 x R144	Slotted screwdriver
1 x R146	Slotted screwdriver
1 x R181	Slotted screwdriver
1 x R184	Slotted screwdriver
1 x R3164	Slotted screwdriver
1 x R3166	Slotted screwdriver (insulated)
1 x R3323	Slotted screwdriver
1 x R5325	Slotted screwdriver
1 x S388	Slotted screwdriver
1 x S3161	Slotted screwdriver
1 x S5161	Slotted screwdriver
1 x S5166	Slotted screwdriver
1 x SX-101	Phillips screwdriver
1 x XST-100	Phillips screwdriver
1 x XST-101	Phillips screwdriver
1 x XST-102	Phillips screwdriver
1 x P18	Hex socket screwdriver
1 x P19	Hex socket screwdriver

TC-100/ST contents continued next page



### Nutdrivers

Cat. No.	Description
1 x HS6	Nutdriver – hollow shaft
1 x HS8	Nutdriver – hollow shaft
1 x HS10	Nutdriver – hollow shaft
1 x HS11	Nutdriver – hollow shaft
1 x HS12	Nutdriver – hollow shaft
1 x HS14	Nutdriver – hollow shaft
1 x HS16	Nutdriver – hollow shaft
1 x HS18	Nutdriver – hollow shaft
1 x 8M	Nutdriver – magnetic
1 x 10M	Nutdriver – magnetic

### Nutdrivers

Cat. No.	Description
1 x P3	Midget nutdriver
1 x P4	Midget nutdriver
1 x P5	Midget nutdriver
1 x P6	Midget nutdriver
1 x P7	Midget nutdriver
1 x P8	Midget nutdriver
1 x P9	Midget nutdriver
1 x P10	Midget nutdriver
1 x P11	Midget nutdriver
1 x P12	Midget nutdriver
1 x TA-2	Torque amplifier handle

## Model TC-100/MT (48625)

(Case only without tools)

## Model TC-150/ST (48628)



A carefully selected, intermediate assortment of Xcelite hand tools plus the popular WP25 Weller 25 watt soldering iron. Contains 23 individual hand tools, 24 Series 99 interchangeable screwdriver/nutdriver blades and handles, XL70 offset ratchet screwdriver set, measuring tape, soldering iron and solder as listed. Case covered with durable, eye catching, whiskey-tan Marvelon. Removable pallets in lid and base outfitted with plastic tool pockets. Base has ample room for additional, personally selected tools, with 14" x 9½" (353mm x 241mm) partition. Solid brass hardware and padded handle. Size: 18½" x 13½" x 5" (470mm x 343mm x 127mm).

### Interchangeable screwdrivers, nutdrivers, other tools and handles:

Cat. No.	Description
99-1, 99-4R	Handles (regular and ratchet Tee)
99-X5	Extension
99-20 through 26, 99-764 and 99-964	Allen hex-socket type blades (9)
99-6 through 12	Hex nutdriver blades (7)
99-250 and 99-811	Slotted screw blades
99-821 and 822	Phillips screw blades
99-38	Reamer

### Pliers, wrenches, cutters

Cat. No.	Description
42H	Seizer
46CG	Adjustable wrench
50CG	Midget slip joint pliers 5"/127mm
53CG	7"/178mm Utility pliers
51CG	Long nose pliers 6"/152mm
54CG	4"/102mm Diagonal
55CG	5"/127mm Diagonal
57CG	5½"/140mm Needle nose pliers
59CG	8"/203mm Chain nose pliers
86CG	Electronic snips
101-S	Wire stripper
K22	Electrician's knife

### Screwdrivers

Cat. No.	Description
R181	Slotted screwdriver
R3323	Slotted screwdriver
R184	Slotted screwdriver
R3164	Slotted screwdriver
S5166	Slotted screwdriver
S3161	Slotted screwdriver
SX101	Phillips screwdriver

### Offset ratchet screwdriver set XL75

Cat. No.	Description
XL-75	5-piece set in see-thru plastic pouch

### No. 600 4-way pocket tool

Cat. No.	Description
600	Combination Dual Nutdriver Handle

TC-150/ST contents continued next page

### Nutdrivers

Cat. No.	Description
HS-14	Hollow shaft
HS-16	Hollow shaft
8M	Magnetic
10M	Magnetic

### Soldering equipment

Cat. No.	Description
WP25	Weller 25 watt soldering iron
RC-60	Rosin core solder

### Measuring tape

Cat. No.	Description
TM-120	10-foot tape

## Model TC-150/MT (48626)

(Case only without tools)

## Model TC-200/ST (48630)



Fine blending of quality, economy and flexibility. Contains ten individual tools and twenty seven series 99 interchangeable screwdriver/nutdriver blades and handles, as listed. Case 18½" x 13½" x 4¾" / 479.90mm x 342.90mm x 120.65mm covered with rugged black durahyde. Removable pallet in lid outfitted with plastic tool pockets. Spacious lower section for additional tools. Brass-finished hardware.

### Interchangeable screwdrivers, nutdrivers, other tools and handles.

Cat. No.	Description
1 x 99-1	Straight handle
1 x 99-4	Tee handle
1 x 99-20 to 99-26	Hex socket screw blades (7)
1 x 99-764	Hex socket screw blade
1 x 99-964	Hex socket screw blade
1 x 99-38	Reamer
1 x 99-X5	Extension
1 x 99-820	Phillips screw blade
1 x 99-821	Phillips screw blade
1 x 99-822	Phillips screw blade
1 x 99-125	Slotted screw blade
1 x 99-811	Slotted screw blade
1 x 99-250	Slotted screw blade
1 x 99-312	Slotted screw blade
1 x 99-6	Hex nutdriver blade
1 x 99-8	Hex nutdriver blade
1 x 99-10	Hex nutdriver blade
1 x 99-11	Hex nutdriver blade
1 x 99-12	Hex nutdriver blade
1 x 99-14	Hex nutdriver blade
1 x 99-16	Hex nutdriver blade

### Pliers, wrenches, cutters

Cat. No.	Description
1 x 43H	Curved nose seizer 6" / 152mm
1 x 46CG	Adjustable wrench 6" / 152mm
1 x 51CG	Long nose pliers 6½" / 165mm
1 x 53CG	Utility pliers 7" / 178mm
1 x 64CG	Diagonal pliers 4" / 101mm
1 x 55CG	Diagonal pliers 5" / 127mm
1 x 57CG	Needle nose pliers 5½" / 139mm
1 x 86CG	Electronic snips
1 x 101-S	Wire stripper-cutter
1 x K22	Electrician's knife

## Model TC-200/MT (48629)

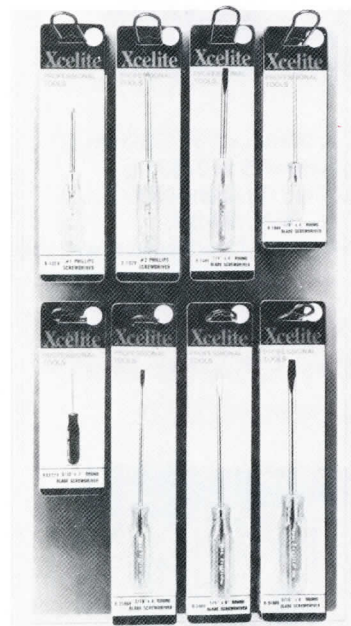
(Case only without tools)



## Xcelite modules

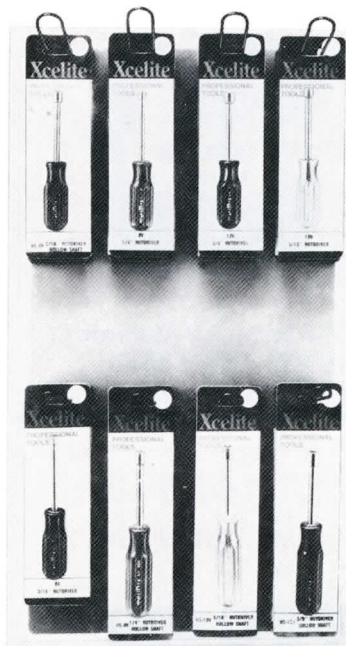
For use with the Cooper Tool wall. For additional information regarding the Cooper module system see the last 2 pages of this catalog.

### TW-106 (48741) Screwdrivers module



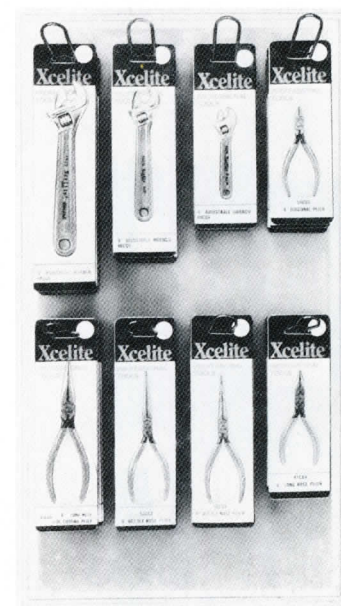
Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 11 lb / 4.99 Kg  
Contains: Three (3) Each X101V, X102V, R144V, R184V, R3322V, R146V, R3166V, R5166V.  
TW-106A (48742) refill assortment only.

### TW-107 (48743) Nutdrivers module



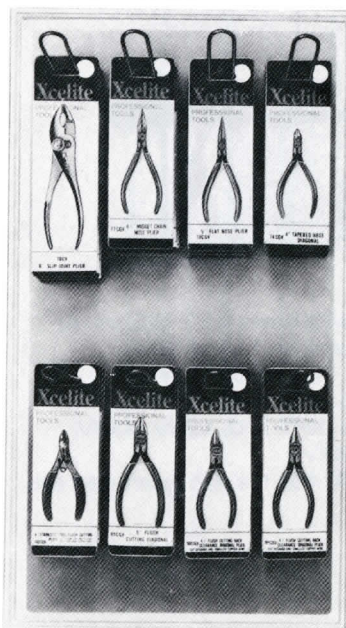
Size 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 12 lb / 5.44 Kg.  
Contains: Three (3) Each 6V, 8V, 10V, 12V, HS6V, HS8V, HS10V, HS12V.  
TW-107A (48744) refill assortment only.

### TW-109 (48747) Pliers and Wrenches module



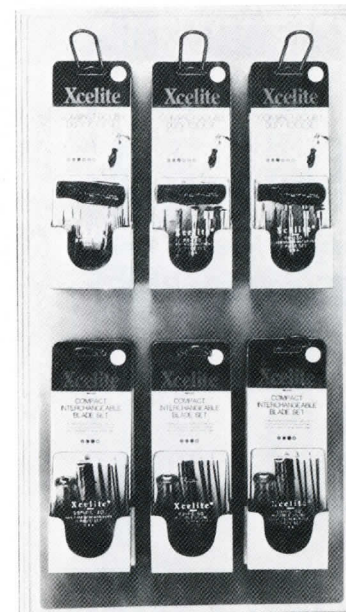
Size: 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 10 lb / 4.53 Kg.  
Contains: Two (2) Each 54CGV, 55CGV, 41CGV, 51CGV, 56CGV, 46CGV, 48CGV, 44CGV.  
TW-109A (48748) refill assortment only.

### TW-108 (48745) Pliers module



Size 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 9 lb / 4.08 Kg.  
Contains: Two (2) Each 76CV, 74CGV, 84CGV, 95CGV, 108CGV, 70CGV, 77CGV, 110CGV.  
TW-108A (48746) refill assortment only.

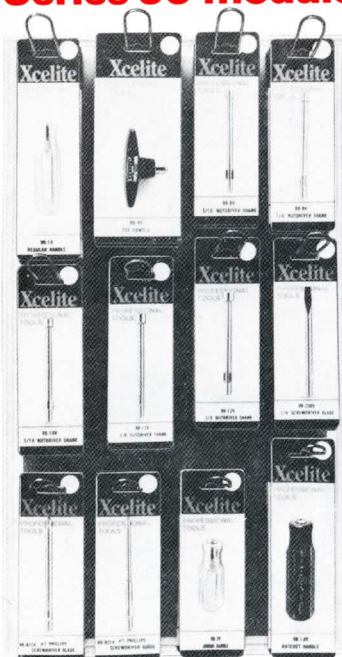
### TW-110 (48749) Compact convertible tool sets modules



Size 16" / 400mm x 29" / 740mm (A)  
Shipping Weight: 16 lb / 7.26 Kg.  
Contains: Two (2) Each PS88V, PS120V, PS130V, 99PS-40V, 99PS-50V, 99PS-60V.  
TW-110A (48750) refill assortment only.

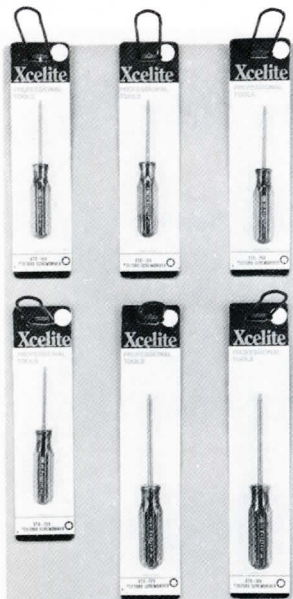


## TW-111 (48751) Series 99 module



Size 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 13 lb/5.89 Kg  
Contains: Four (4) Each 99-1V, 99-1-RV, 99-2V, 99-4V, 99-6V, 99-8V, 99-10V, 99-12V, 99-811V, 99-250V, 99-821V, 99-822V.  
TW-111A (48752) refill assortment only.

## TW-114 (48835) Torx® module



Size 16" / 400mm x 29" / 740mm (A)  
Shipping Weight: 8 lb/3.63 Kg  
Contains: Three (3) Each XTD-10V, XTD-15V, XTD-20V, XTD-25V, XTD-27V, XTD-30V.  
TW-114A (48836) refill assortment only.

## TW-204 (48815) Tool kit modules



Size 16" / 400mm x 13" / 330mm (C)  
Shipping weight: 14 lb/6.35 Kg  
Contains: Two (2) TKX-11.  
TW-204A (48816) refill assortment only.

## TW-208 (48818) Tweezer module



Size 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 11 lb/4.99 Kg  
Contains: Two (2) Each XHT-412, XHT-434, XHT-600, XHT-612, XHT-678, XHT-700, 42HV, 43HV, 100XV, 80V.  
TW-208A (48819) refill assortment only.

## TW-205 (48816) Hobby driver module



Size 16" / 400mm x 13" / 330mm (C)  
Shipping weight: 8 lb/3.63 Kg  
Contains: Two (2) Each M60V, PS-89V, XL-75V, SD-3V.  
TW-205A (48817) refill assortment only.

## TW-207 (48817) Hobby knives and blades module



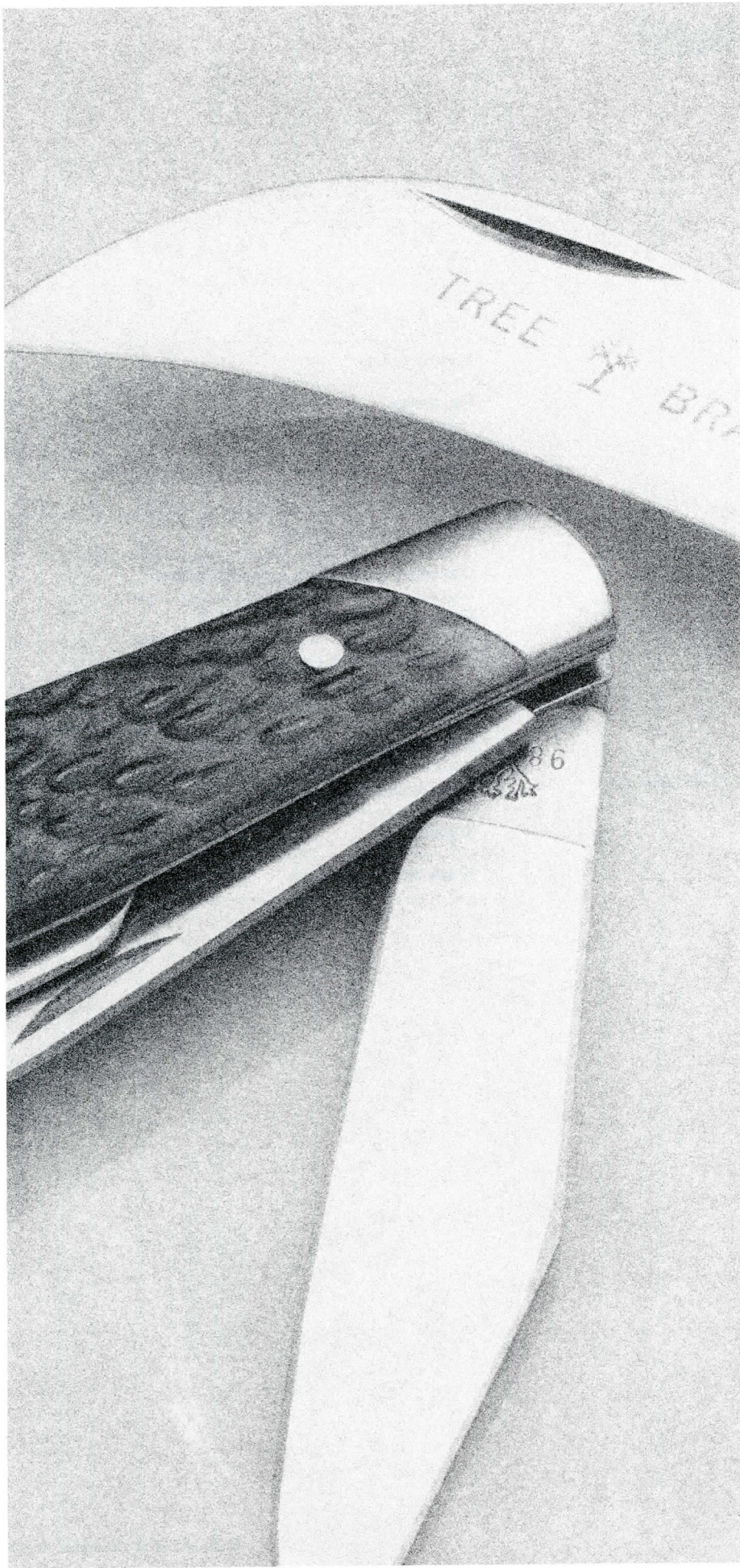
Size 16" / 400mm x 29" / 740mm (A)  
Shipping weight: 11 lb/4.99 Kg  
Contains: Two (2) Each XN-100, XN-200, XN-210, XN-220, XN-300, XN-400, XNS-100, XNB-101, XNB-103, XNB-105, XNB-201, XNB-203, XNB-205, XNB-401, XNB-800, XNB-301, XNB-303, XNB-305, XNB-1, XNB-2, XNB-4, XNB-5, XNB-6.  
TW-207A (48818) refill assortment only.



Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
4MM	X13, X15	96CG	X36	99-821	X20, X23, X24, X26	L8	X13	PS-130	X17	TW-204A	X48
4-13MM	X15	96CGV	X36		X44, X45, X46	L8M	X14	PS-130V	X17, X47	TW-205	X48
5MM	X13	97CG	X36	99-821V	X20, X48	L8MV	X14	PS-TR 1	X18	TW-205A	X48
5.5MM	X13	97CGV	X36	99-822	X20, X23, X24, X26	L8V	X13	PS-TR 1V	X18	TW-207	X48
6	X12	98CG	X35		X44, X45, X46	L10	X13	PSL-O	X18	TW-207A	X48
6MM	X13	98CGV	X35	99-822V	X20, X48	L10M	X14	PSL-1	X18	TW-208	X48
6V	X12, X47	99-1	X19, X23, X24, X25, X26, X44, X45, X46	99-831	X20	L10MV	X14	PSL-2	X18	TW-208A	X48
7	X12	99-1R	X19, X48	99-832	X20	L10V	X13	PSL-3	X18	X100	X6, X7
7MM	X13	99-1RV	X19, X48	99-833	X20	L11	X13	R-144	X4, X43, X44, X5, X7	X100V	X6
7V	X12	99-1V	X19, X48	99-864	X21, X24, X26, X1, X44, X46	L11V	X13	R-144V	X4, X47	X101	X6, X43, X7
8	X10, X12, X43	99-2	X19	99-964BP	X21, X25	L12	X13	R-146	X4, X44	X101V	X6, X47
8M	X14, X45, X46	99-2V	X19, X48	99-G-316	X22, X25	L12V	X13	R-146V	X4, X47	X102	X6, X7
8MM	X13, X15	99-3	X19, X23, X24	99-G-532	X22, X25	LL-8M	X14	R-148	X4, X47	X101V	X6, X47
8MV	X14	99-3V	X19	99-K	X23	LL-10M	X14	R-181	X4, X44, X45, X7	X103	X6, X7
8V	X12, X47	99-4	X19, X24, X46	99-MP	X24	LN-127MM	X8	R-181V	X4	X103V	X6
9	X12	99-4MM	X20, X27	99-MPK	X24	LN-127MMBP	X9	R-182	X4, X5	X104	X6
9MM	X13	99-4.5MM	X20, X27	99-PR	X23	LN-155MM	X8	R-183	X4	X108	X6
9V	X12	99-4R	X19, X44, X45	99-PS-40	X26	LN-155MMBP	X9	R-184	X4, X43, X44, X45, X7	X108V	X6
10	X12	99-4RV	X19	99-PS-40BP	X25	LN-2MM	X8		X45, X7	X1010	X6
10M	X14, X45, X46	99-4R	X19, X44, X45	99-PS-40BPV	X25	LN-2MMBP	X9	R-184V	X4, X47	X1020	X6
10MM	X13, X15	99-4RV	X19	99-PS-40V	X26, X47	LN-2.5MM	X8	R-186	X4	XHT-412	X40, X48
10MV	X14	99-4V	X19, X48	99-PS-41MM	X26	LN-2.5MMBP	X9	R-186V	X4	XHT-434	X40, X48
10V	X12, X47	99-5MM	X20, X27	99-PS-41MMBP	X25	LN-3MM	X8	R-188	X4	XHT-600	X40, X48
11	X12	99-5.5MM	X20, X27	99-PS-50	X26	LN-3MMBP	X9	R-188V	X4	XHT-612	X40, X48
11MM	X13, X15	99-6	X19, X23, X24, X26, X45, X46	99-PS-50V	X26, X47	LN-4MM	X8	R-388	X4	XHT-678	X40, X48
11V	X12			99-PS-51MM	X27	LN-4MMBP	X9	R-1410	X4	XHT-700	X40, X48
12	X12	99-6MM	X20, X27	99-PS-51MMV	X27	LN-5MM	X8	R-1810	X4	XL-3	X38
12MM	X14	99-6V	X19, X48	99-PS-60	X27	LN-5MMBP	X9	R-3163	X4	XL-4	X38
12V	X12, X47	99-7	X19, X23, X24, X26, X45	99-PS-60V	X27, X47	LN-6MM	X8	R-3163V	X4	XL-5	X38
13MM	X14, X15			99-S-8	X19, X23, X24	LN-6MMBP	X9	R-3164	X4, X44, X45	XL-6	X38
14	X12	99-7MM	X20, X27	99-S-8V	X19	LN-8MM	X8	R-3164V	X4	XL-7	X38
14V	X12	99-7V	X19	99-S-10	X19, X23, X24	LN-8MMBP	X9	R-3166	X4, X44, X5, X7	XL-8	X38
16	X12	99-8	X19, X23, X24, X26, X45, X46	99-S-10V	X19	LN-9BP	X9	R-3166V	X4, X47	XL-9	X38
16V	X12	99-8M	X25, X45, X46	99-S-12	X19, X23, X24	LN-11	X8	R-3168	X4	XL-10	X38
25	X12	99-8V	X20, X24	99-S-12V	X19	LN-20	X1, X8	R-3322	X4, X7	XL-11	X38
32H	X37	99-8MM	X20, X27	99-SL	X24	LN-20BP	X9, X1	R-3322V	X4, X47	XL-12	X38
32HV	X37	99-8MV	X20	99-SL-0	X22, X24	LN-21	X1, X8	R-3323	X4, X44, X45	XL-16	X38
33H	X37	99-8V	X19, X48	99-SL-1	X22, X24, X25	LN-21BP	X9	R-3324	X4	XL-17	X38, X39
33HV	X37	99-9	X19, X23, X24, X26, X45, X46	99-SL-2	X22, X24, X25	LN-21V	X8	R-5164	X4	XL-18	X38
41CG	X29			99-SL-3	X22, X24	LN-22	X1, X8	R-5164V	X4	XL-20	X38, X39
41CGV	X29, X47	99-9MM	X20, X27	99-SL-4	X22, X24, X25	LN-22BP	X9	R-5166	X4, X5, X7	XL-21	X38
42H	X37, X44, X45	99-9V	X19	99-SM	X23	LN-22V	X1, X8	R-5166V	X4, X47	XL-24	X38
42HV	X37, X46	99-10	X19, X23, X24, X26, X45, X46	99-SMK	X23	LN-23	X1, X8	R-5168	X4	XL-25	X38, X39
43H	X37, X46			99-SMW	X24	LN-23BP	X9	R-5323	X4	XL-27	X38, X39
43HV	X37, X48	99-10M	X20	99-SMWK	X24	LN-23V	X8	R-5324	X4, X5	XL-50	X38
44CG	X39	99-10MM	X20, X27	99-TR-5	X25	LN-24	X1, X8	R-5324V	X4	XL-70	X38, X45
44CGV	X39, X47	99-10MV	X20	99-X-5	X22, X24, X25, X27, X44, X45, X46	LN-24BP	X9	R-5325	X4, X44	XL-75	X39, X44, X45
46CG	X23, X24, X39, X43, X44, X45, X46	99-10V	X20	99-X-5V	X44, X45, X46	LN-24V	X8	R-5325V	X4	XL-75V	X4
46CGV	X39, X47	99-11	X19, X23, X24, X26, X45, X46	99-X-10V	X22	LN-25	X1, X8	R-5328	X4	XN-200	X41, X48, X42
48CG	X39	99-11MM	X20, X27	99-X-10V	X22	LN-25BP	X9	R-5329	X4	XN-200	X41, X48, X42
48CGV	X39, X47	99-11V	X19	100-X	X24, X37, X43	LN-25V	X8	RB-1	X11	XN-210	X41, X48, X42
50CG	X23, X29, X44, X45	99-12	X19, X23, X24, X26, X45, X46	100-XV	X37, X48	LN-26	X1, X8	RB-2	X11	XN-220	X41, X48, X42
50CGV	X29			101-S	X37, X45, X46	LN-26BP	X9	RB-3	X11	XN-300	X41, X48, X42
51CG	X29, X43, X44, X45, X46	99-12V	X19, X48	101-SV	X37	LN-26V	X8	RP-101	X7	XN-400	X40, X48, X42
51CGV	X29, X47	99-14	X24, X46	103-S	X37, X44	LN-27	X1, X8	RP-102	X7	XN-400	X40, X48, X42
52CG	X29, X23, X24	99-14V	X19	103-SV	X37	LN-27BP	X9	R-141	X5, X43	XN-8	X42, X48
52CGV	X29	99-16	X19, X23, X24, X46	104-CG	X37	LN-28	X1, X8	R-141V	X5	XN-8	X42
53CG	X30, X44, X45, X46	99-16V	X19	104-CGV	X37	LN-28BP	X9, X1	S-144	X5	XN-8	X42, X48
53CGV	X30	99-20	X21, X24, X26, X45, X46	105-CG	X38	LN-28V	X1, X8	S-144V	X5	XN-8	X42, X48
54CG	X27, X44, X45	99-20V	X19	105-CGV	X38	LN-264BP	X9	S-146	X5	XN-8	X42, X48
54CGV	X27, X47	99-20BP	X21, X25, X1	105-SCGV	X38	LN-264V	X8	S-146V	X5	XN-8	X42, X48
55CG	X23, X24, X28	99-21	X21, X24, X26, X45, X46	105-SCGV	X38	LN-264V	X8	S-148	X5	XN-8	X42, X48
55CGV	X28, X47	99-21BP	X21, X25	106-CG	X35	LN-264V	X8	S-388	X5, X44	XN-8	X42, X48
56CG	X28	99-22	X21, X24, X26, X1	106-CGV	X35	M-60	X18, X44	S-3161	X5, X44, X45	XN-8	X42, X48
56CGV	X28, X47	99-22BP	X44, X45, X46	107-CG	X35	M-60V	X18, X48	S-3161V	X5	XN-8	X42, X48
57CG	X28, X44, X45	99-23	X21, X24, X26, X1	108-CG	X35	M-60V	X18, X48	S-3163	X5	XN-8	X42, X48
57CGV	X28	99-23BP	X44, X45, X46	108-CGV	X35, X47	M-60V	X18, X48	S-3163V	X5	XN-8	X42, X48
58CG	X28, X29	99-24	X21, X24, X26, X1	109-CG	X35	M-60V	X18, X48	S-3164	X5	XN-8	X42, X48
58CGV	X29	99-24BP	X21, X25	109-CGV	X35	M-60V	X18, X48	S-3164V	X5	XN-8	X42, X48
59CG	X29, X44, X45	99-25	X21, X24, X26, X1	110-CG	X36	M-60V	X18, X48	S-3166	X5	XN-8	X42, X48
59CGV	X29	99-25BP	X21, X25	111-CG	X36	M-60V	X18, X48	S-3166V	X5	XN-8	X42, X48
60CG	X30	99-26	X21, X24, X26, X1	111-CGV	X36	M-60V	X18, X48	S-3168	X5	XN-8	X42, X48
60CGV	X30	99-26BP	X21, X25	127TB	X14	M-60V	X18, X48	S-3812	X5	XN-8	X42, X48
63CG	X30	99-27	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5161	X5, X44	XST-3	X7
63CGV	X30	99-28	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5161V	X5	XST-5	X7
64CG	X28, X46	99-29	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5164	X5	XST-100	X6, X7, X44
64CGV	X28	99-30	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5164V	X5	XST-100V	X6
66CG	X28, X44	99-31	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5166	X5, X44, X45	XST-101	X6, X7, X44
66CGV	X28	99-32	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5166V	X5	XST-101V	X6
67CG	X28	99-33	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168	X5	XST-102	X6, X7, X44
67CGV	X28	99-34	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-102V	X6
68CG	X30	99-35	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-103	X6, X7, X44
68CGV	X30	99-36	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-104	X6, X7, X44
69CG	X34	99-37	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-105	X6, X7, X44
69CGV	X34	99-38	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-106	X6, X7, X44
70CG	X32	99-39	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-107	X6, X7, X44
70CGV	X32	99-40	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-108	X6, X7, X44
71CG	X32	99-41	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-109	X6, X7, X44
71CGV	X32	99-42	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-110	X6, X7, X44
72CG	X32	99-43	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-111	X6, X7, X44
72CGV	X32	99-44	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-112	X6, X7, X44
73CG	X33	99-45	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-113	X6, X7, X44
73CGV	X33	99-46	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-114	X6, X7, X44
74CG	X34	99-47	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-115	X6, X7, X44
74CGV	X34	99-48	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-116	X6, X7, X44
75C	X30	99-49	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-117	X6, X7, X44
75CV	X30	99-50	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-118	X6, X7, X44
76C	X30, X43	99-51	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-119	X6, X7, X44
76CV	X30, X47	99-52	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-120	X6, X7, X44
77CG	X32	99-53	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-121	X6, X7, X44
77CGV	X32	99-54	X21, X24, X26, X1	127TB	X14	M-60V	X18, X48	S-5168V	X5	XST-122	X6, X7, X44
78C	X30	99-55	X21, X24, X26, X1								







<sup>®</sup>  
**Boker**

**CooperTools™**

# Boker Tree Brand

The oldest manufacturer of pocket knives in the United States, with a wide range that includes utility, sporting and hunting knives, plus commemorative knives for a fast growing collectors' market.

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### Note:

N/S No. is an abbreviation of NIDA/SIDA Number.



# Boker Tree Brand Knives Quality Story

Boker Tree Brand is one of the most respected trademarks in the field of fine cutlery. It is America's oldest name in pocket and sporting knives...since 1837.

Boker Tree Brand Knives have a tradition of quality that is founded on the skill, experience and dedication of master craftsmen. It is their constant striving to produce a product in which they can individually take pride that guarantees the continuing superior quality of Boker Tree Brand pocket and sporting knives.

But workmanship is only part of the story...a Boker Tree Brand Knife is made only of the finest materials. Blades are made of Special Chrome-Vanadium Alloy Steel or stainless steel for extra fine edge-holding ability. Bolsters for Boker Tree Brand Knives are made from nickel silver or special alloys that give strength and beauty to the knife...the linings are brass. Handle materials are selected for their durability and attractiveness.

These fine time-proven materials, when crafted skillfully and patiently in the hands of a master cutler, produce a truly fine quality Boker Tree Brand Knife.

## Blade Shapes



Spear Blade



Appalachian Clip



Can-Opener



Coping or  
Cutoff Pen Blade



Turkish Clip Blade



Long Spey



Screw-Driver  
Cap-Lifter



Small Clip Blade



Sabre Clip Blade



Sheepfoot Blade



Punch Blade



Pen Blade



Clip Blade



Hawkbill or  
Pruning Blade



Razor Blade



Small Sheepfoot Blade

**Note: All Bone handled and Olde stag knives are gift boxed**

## American made knives

### Barlow knives



492

All saw cut Delrin handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
492	58106	Spear & Pen	3 <sup>5</sup> / <sub>16</sub> /84	8/227	3
493	58107	Clip & Pen	3 <sup>5</sup> / <sub>16</sub> /84	8/227	3
494	58109	Sheepfoot & Pen	3 <sup>5</sup> / <sub>16</sub> /84	8/227	3
495	58110	Razor & Pen	3 <sup>5</sup> / <sub>16</sub> /84	8/227	3
493R	58108	Clip & Pen	3 <sup>5</sup> / <sub>16</sub> /84	11/312	3

Blister packed

## Pen knives

### Serpentine



8288

With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
8288	58161	Clip & Pen	2 <sup>3</sup> / <sub>4</sub> /69	2.5/64	3
3588	58131	Clip & Pen	3 <sup>3</sup> / <sub>8</sub> /85	4/113	3

## Senator



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
1428	58123	Spear & Pen	3 <sup>1</sup> / <sub>8</sub> /79	3.5/99	3

## Congress knives

### Small congress

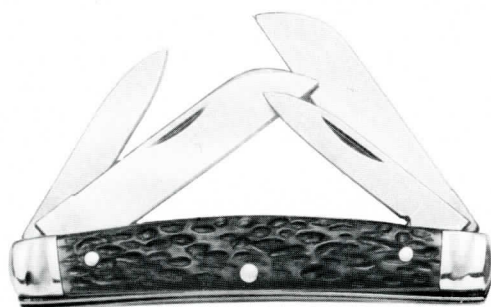


6384

With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
6484	58147	2 Sheepfoot & 2 Pen	3/76	4.5/128	3
6384	58145	Sheepfoot & Pen	3/76	3/85	3

## Medium congress



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
6006	58142	2 Sheepfoot & 2 Pen	3 <sup>3</sup> / <sub>8</sub> /95	6.5/184	3



## Medium congress



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
6113	58144	Spear, Sheepfoot & 2 x Pen	3 $\frac{3}{4}$ /95	8/227	3

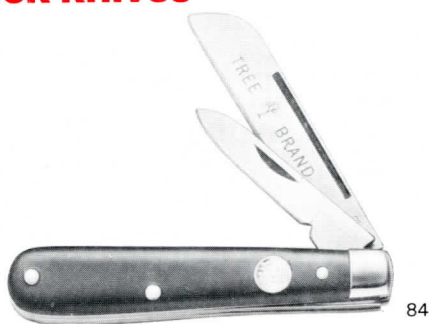
## Medium congress "Olde Stag"



With Del-bone handle.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
70113	58191	Spear, Sheepfoot & 2 Pen	3 $\frac{3}{4}$ /95	3.8/96	1(Gift boxed)

## Utility jack knives

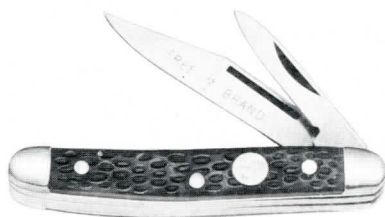


With Ebonite handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
83	58073	Clip & Pen	3/76	4.5/128	3
84	58074	Sheepfoot & Pen	3/76	5/142	3
85	58075	Razor & Pen	3/76	4.5/128	3
85R	58076	Razor & Pen	3/76	8/227	3

Blister packed

## Small serpentine jack knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
8248	58160	Clip & Pen	2 $\frac{3}{4}$ /69	3/85	3

## Medium jack knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
8348	58164	Clip & Pen	3 $\frac{3}{8}$ /85	5.5/156	3

## Large jack knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
8368	58165	Saber clip & Pen	4/100	8.5/241	3

## Small jack knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
9023	58172	Spear & Pen	3 $\frac{1}{8}$ /77	4.5/128	3

## Dogleg jack

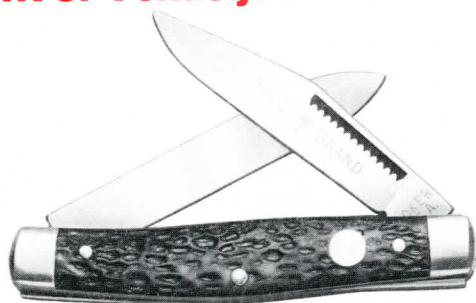


9903

With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
9903	58189	Spear & Pen	2 $\frac{5}{8}$ /73	3.5/99	3
9908	58190	Sabre clip & Pen	2 $\frac{1}{2}$ /73	3.5/99	3

## Varmint or Texas jack knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
3030	58130	Large clip & Spear	4/100	8.5/241	3

## Stock knives Small Premium stock knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
8388	58166	Clip, Sheepfoot & Pen	2 $\frac{3}{4}$ /69	3.0/85	3



## Medium premium stock knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
8585	58169	Clip, Spey & Pen	3 3/8/85	5.5/156	3
8588	58170	Clip, Sheepfoot & Spey	3 3/8/85	5.5/156	3
8593	58171	Clip, Spey & leather punch	3 3/8/85	6.0/170	3
8113	58158	Long turkish clip, Spey & Pen	3 1/2/88	6.0/170	3
8128	58159	Long turkish clip, Sheepfoot & Spey	3 1/2/88	6.0/170	3

## Medium premium stock knife "Olde Stag"



With Del-bone handle "Olde Stag".

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
70488	58193	Clip, Sheepfoot & Spey	3 3/8/85	3/85	1(Gift boxed)

## Large premium stock knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
8573	58168	Clip, Sheepfoot & Spey	4/100	9.0/255	3

## Large premium stock knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. Oz/g	Shelf Pack
9885	58185	Clip, Sheepfoot & Spey	4/100	9/255	3
9885R	58186	Clip, Sheepfoot & Spey	4/100	13/368	3

Blister packed

## Large premium stock knife



With Synthetic pearl handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. Oz/g	Shelf Pack
98851	58187	Clip, Sheepfoot & Spey	4/100	9/255	3

## Large premium stock knife



With Ivory color handle.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
9885V	58188	Clip, Sheepfoot & Spey	4/100	12/340	3

## Large premium stock knife "Olde Stag"



With Del-bone handle.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
70485	58192	Clip, Sheepfoot & Spey	4/100	3/85	1 (Gift boxed)

## Carpenter & Whittler knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
8313	58163	Sabre clip, Coping & Pen	3½/88	7/198	3

## Utility knife of 1,000 uses



With smooth brown Delrin handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
9215	58173	Hawkbill	4/100	11/312	3
9215R	58175	Same as 9215 except Red handle blister packed 3			

## "The Miner" Utility Knife



With Ebony Delrin handle.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
9215M	58174	Hawkbill	4/100	11/312	3



## Camper's knife



With stag type handle.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
9361	58182	Spear & Pen, can opener, screwdriver-bottler cap lifter	3 3/4/95	11.5/326	3
9361R	58183	Blister packed			3

## Trapper's or Muskrat knife



With stag type handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
9572	58184	2 Skinning clip	4/100	8/227	3

## Electrician's knife

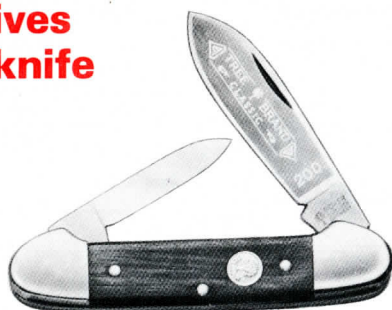


Special Brass lock keeps screwdriver from closing when in use.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
9229	58176	Spear blade, screwdriver & insulation scraper	3 3/4/95	3.5/99	3
9229R	58177	Blister packed			3

## Imported knives — Made in Solingen, Germany

### Pen knives Canoe knife



With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
200	58087	Spear & Pen	3 $\frac{5}{8}$ /90	8.5/241	3

### Small pen knife



With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
82881	58162	Clip & Pen	2 $\frac{1}{4}$ /69	2/57	3

### Medium pen knife



With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
240	58089	Clip & Pen	3 $\frac{1}{8}$ /79	3.5/99	3

### Medium pen knife



With genuine bone handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
240B	58088	Clip & Pen	3 $\frac{1}{8}$ /79	1.1/32	1(Gift boxed)

### Deluxe Whittler & pen knife



With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
280	58091	Clip, Pen & Coping	3 $\frac{1}{2}$ /88	4.5/128	3



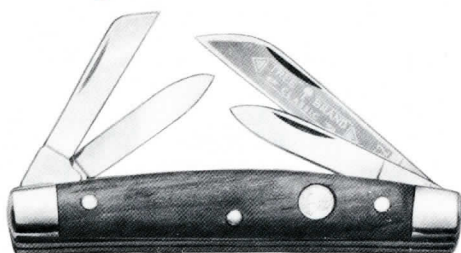
## Deluxe Whittler & pen knife



With genuine bone handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
280B	58090	Clip, Pen & Coping	3 1/8	1.5/43	1 (Gift boxed)

## Congress knives Small congress



5452

With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
5252	58137	Sheepfoot & Pen	3 1/8	3/85	3
5452	58138	Sheepfoot, Coping & 2 Pen	3 1/8	4/113	3

## Medium congress



With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
5464	58140	2 Sheepfoot, Pen & Coping	3 1/8	8/227	3

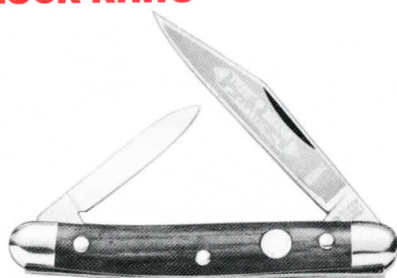
## Medium congress



With genuine bone handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
5464B	58139	2 Sheepfoot, Pen & Coping	3 1/8	3/85	1 (Gift boxed)

## Premium stock knives Pony stock knife



With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
83881	58167	Clip, Sheepfoot & Spey	2 1/4	3/85	3

## Medium premium stock



With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
7388	58148	Clip, Spey & punch	3 1/8	5.5/156	3
7588	58157	Clip, Sheepfoot & Spey	3 1/8	7.0/198	3
<b>Medium premium with genuine bone handle.</b>					
7588B	58156	Clip, Sheepfoot & Spey	3 1/8	2.5/71	1(Gift boxed)

## Large premium



With Rosewood handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
6066	58143	Clip, Sheepfoot & Spey	4/100	6.5/184	3
7474	58155	Clip, Sheepfoot & Spey	4/100	8.5/241	3

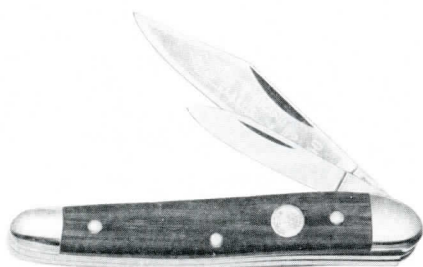
## Large premium



With genuine bone handles.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
7474B	58154	Clip, Sheepfoot & Spey	4/100	2.7/77	1(Gift boxed)

## Rosewood jack knife



With Rosewood handle.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
340	58257	Clip & Pen	3 1/8/79	2/56	3

## Folding lock hunting knives

### Drop point hunting knife



Rosewood handles. Stainless steel blades. Nickel silver bolster and pins. Solid Brass linings.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
1000	58119	Drop point	4 1/4/107	3.4/96	3

Order sheath separately Cat. No. 73106S



## Skinner hunting knife



Rosewood handles. Stainless steel blades. Nickel silver bolster and pins. Solid Brass linings.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
1001	58213	Skinner	4 1/4/107	3.3/93	3

Order sheath separately. Cat. No. 73106S. N/S No. 58217.

## Premium folding lock hunting knife

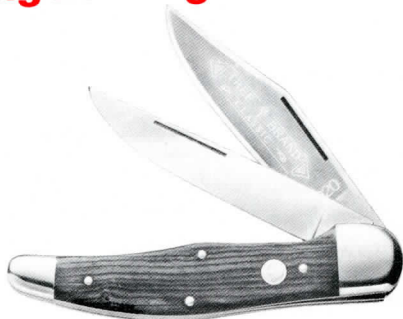


Solid spring lock. Rosewood handles. Polished brass bolsters, fittings and pins. 440C Stainless steel drop point blade.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
2000	58256	Drop point	4 3/4/120	6.5/184	1

Order sheath separately. Cat. No. 73105S. N/S No. 58150.

## Folding hunting knife



Rosewood handles. Stainless steel blades. Nickel silver bolster and pins. Solid brass linings.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
2020	58129	Clip & Skinning	5 1/4/133	19/539	3

Order sheath separately. Cat. No. 73106S. N/S No. 58217.

## Trapper knife



Rosewood handles. Nickel silver pins and bolsters. Solid brass linings.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
2525	58216	Clip & Spey	4 1/4/107	6.5/184	3

## Sportsman's knife



Rosewood handles. Nickel silver pins and bolsters. Solid brass linings.

Cat. No.	N/S No.	Blade Description	Size Closed "/mm	Shelf Pk. wt. oz/g	Shelf Pack
93	58077	Long clip	4/100	5/142	3

## Hunting knives 500 series

# New!

The new Boker 500 series incorporating some of the most significant advances in hunting knives in recent years. With handles shaped and surfaced to provide the surest and most comfortable grip ever. With firmly-fixed blades, specially designed for the job, made of stainless steel and set in the handle with solid bronze guard. The full range comes individually boxed with rugged leather sheaths, embossed with Boker Tree Brand.

### Large skinning



Cat. No.	N/S No.	Overall Size "/mm	Shelf Pk. wt. oz/g	Shelf Pack
501	58266	8½/222	5/142	1

Complete with sheath.

### Medium skinning



Cat. No.	N/S No.	Overall Size "/mm	Shelf Pk. wt. oz/g	Shelf Pack
502	58267	8½/222	4.5/128	1

Complete with sheath.

### Sportsman



Cat. No.	N/S No.	Overall Size "/mm	Shelf Pk. wt. oz/g	Shelf Pack
503	58268	9½/234	4.75/135	1

Complete with sheath.

### Small game



Cat. No.	N/S No.	Overall Size "/mm	Shelf Pk. wt. oz/g	Shelf Pack
504	58269	9/228	4.5/128	1

Complete with sheath.



## Fillet knife and sheath



7½" / 190mm Flexible Stainless steel blade, full tang. Rosewood handles. Brass rivets. Hanging hole. Comes with genuine leather sheath.

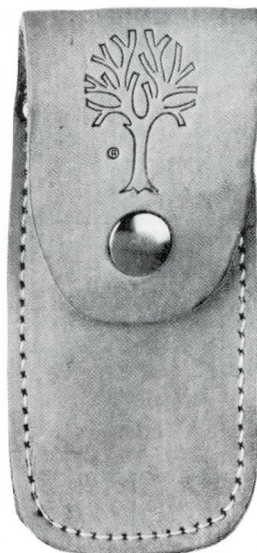
Cat. No.	N/S No.	Overall length " / mm	Shelf Pk. wt. oz/g	Shelf Pack
F8S	58255	12½" / 3.18	6¼ / 177	1

## 73105S (58150) Sheath



Genuine molded leather designed to be used with folding hunting knives #2000 & #2020.  
Shelf Pack Quantity: 3  
Shipping Weight: 1.5 oz./42 g.

## 73106S (58217) Sheath



Genuine molded leather designed to be used with folding hunting knives #1000 & #1001.  
Shelf Pack Quantity: 1  
Shipping Weight: 1.25 oz./35g.

**KC-73131 (58199)**  
**counter display**  
**Southeast display**  
**assortment**



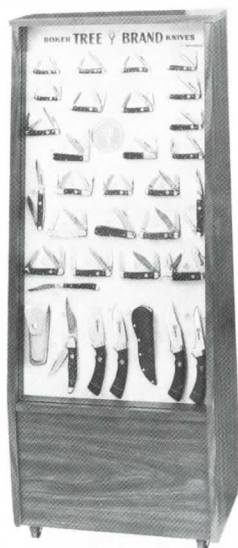
Size 17 $\frac{3}{4}$ " / 451mm wide x 17 $\frac{3}{4}$ " / 451mm high x 9" / 228mm Deep at base.  
 Shipping Weight 23 lb/10.43 Kg.  
 Contains: Three (3) Each 493, 8348, 9908, 8288, 6384, 6484, 8388, 8588, 9885, 9885I, 8313, 9229, 9361, 240, 7588, 93, 2020, 73105S (Sheath for 2020).

**KF-73101X (58277)**  
**floor display**  
**National display**  
**assortment**



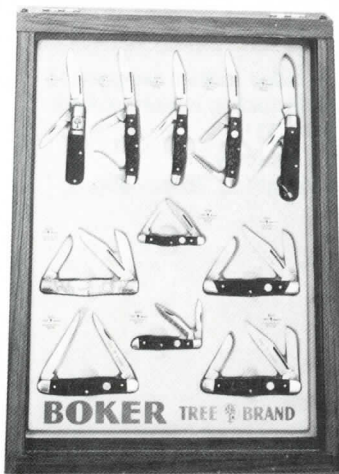
Size 20" / 508mm wide x 50 $\frac{1}{4}$ " / 1276mm high including casters x 11" / 279mm Deep at base.  
 Shipping Weight 79 lb/36 Kg.  
 Contains: Three (3) Each 493, 3030, 8348, 8368, 9908, 3588, 8288, 8113, 8388, 8573, 8585, 8588, 8593, 9885, 9885I, 8313, 9215, 9229, 9361, 9572, 93, 2020, 73105S (Sheath for 2020), 501, 502, 503, 504.

**KF-73130X (58278)**  
**floor display**  
**Southeast display**  
**assortment**



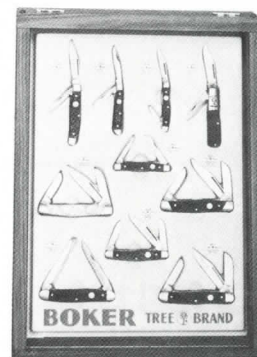
Size 20" / 508mm wide x 50 $\frac{1}{4}$ " / 1276mm high x 11" / 279mm Deep at base.  
 Shipping Weight 76 lb/34.5 Kg.  
 Contains: Three (3) Each 493, 85, 3030, 8348, 9908, 8288, 6113, 6384, 6484, 8388, 8573, 8585, 8588, 9885, 9885I, 8313, 9215, 9229, 9361, 9572, 240, 280, 6066, 7474, 7588, 93, 2020, 73105S (Sheath for 2020) 501, 502, 503, 504.

**KC-73103 (58196)**  
**counter display**  
**National display**  
**assortment**



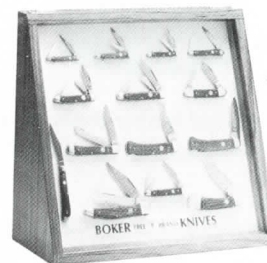
Size 12 $\frac{1}{8}$ " / 308mm wide x 16 $\frac{1}{2}$ " / 419mm high x 8 $\frac{3}{4}$ " / 222mm Deep at base.  
 Shipping Weight 15 lb/6.80 Kg.  
 Contains: Three (3) Each 493, 8348, 9908, 8288, 8573, 8588, 8593, 9885, 9885I, 9229, 9572.

**KC-73132 (58200)**  
**counter display**  
**Southeast display**  
**assortment**



Size 12 $\frac{1}{8}$ " / 308mm wide x 16 $\frac{1}{2}$ " / 419mm high x 8 $\frac{3}{4}$ " / 222mm Deep at base.  
 Shipping weight 14 lb/6.35 Kg.  
 Contains: Three (3) Each 493, 8348, 9908, 8288, 6384, 8573, 8588, 9885, 9885I, 9572.

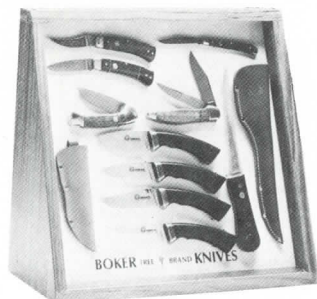
**KC-73134 (58270)**  
**Medium imported**  
**counter display**  
**Pocket and Hunting**  
**knives assortment**  
**New!**



Size: 17 $\frac{3}{4}$ " / 451mm wide x 17 $\frac{3}{4}$ " / 451mm high x 9" / 228mm Deep at base.  
 Shipping weight: 22 lb/9.98 Kg.  
 Contains: Three (3) Each 8288-I, 8388-I, 240, 340, 7388, 6066, 200, 2525, 1000, 1001, 93, 2020, 280, 2000.



**KC-73135 (58272)**  
**counter display**  
**Hunting knives**  
**assortment**  
**New!**

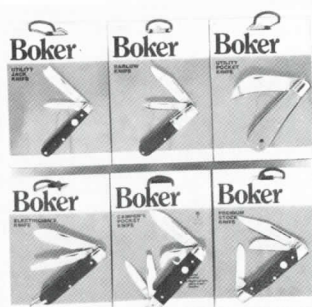


Size: 17 $\frac{3}{4}$ " / 451mm wide x 17 $\frac{3}{4}$ " / 451mm high x 9" / 228mm Deep at base.  
 Shipping weight: 27lb / 12.25 Kg.  
 Contains: Three (3) Each of 10 knives plus sheaths for 500 series and Fillet (F8S): 501, 502, 503, 504, 1000, 1001, 2000, 2020, F8S, 93.

**Boker® Module**

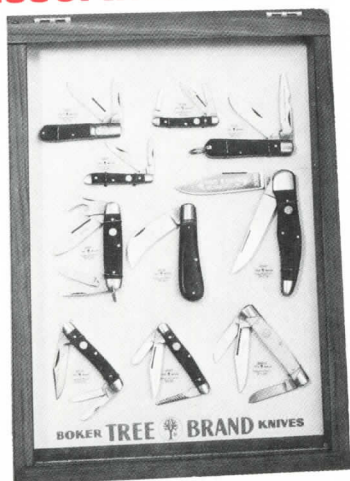
For use with the Cooper Tool Wall. For additional information regarding the Cooper module system see the last 2 pages of this catalog.

**TW48 (58232)**  
**Knife module**



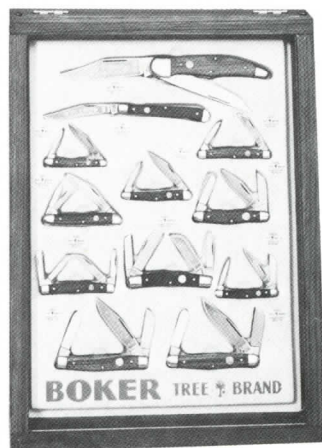
Size: 16" / 400mm x 16" / 400mm (B)  
 Shipping weight: 6 lb / 2.72 Kg.  
 Contains: Two (2) Each 85R, 493R, 9215R, 9229R, 9361R, 9885R.

**Boker counter and floor displays**  
**KC-7160A (58149)**  
**counter display**  
**Industrial assortment**



Size 12 $\frac{1}{8}$ " / 308mm wide x 16 $\frac{1}{2}$ " / 419mm high x 8 $\frac{3}{4}$ " / 222mm Deep at base  
 Shipping weight 23 lb / 10.43 Kg.  
 Contains: Four (4) Each 493, 8388, 9229, 9908, 9361, 9215, 2020, 8313, 8593, 9885V.

**KC-73133 (58201)**  
**counter display**  
**Imported assortment**



Size 12 $\frac{1}{8}$ " / 308mm wide x 16 $\frac{1}{2}$ " / 419mm high x 8 $\frac{3}{4}$ " / 222mm Deep at base  
 Shipping Weight 16 lb / 7.26 Kg.  
 Contains: Three (3) Each 240, 280, 8288I, 5252, 5452, 5464, 6066, 7474, 7588, 8388I, 93, 2020.

**KC-73102 (58195)**  
**counter display**  
**National display assortment**

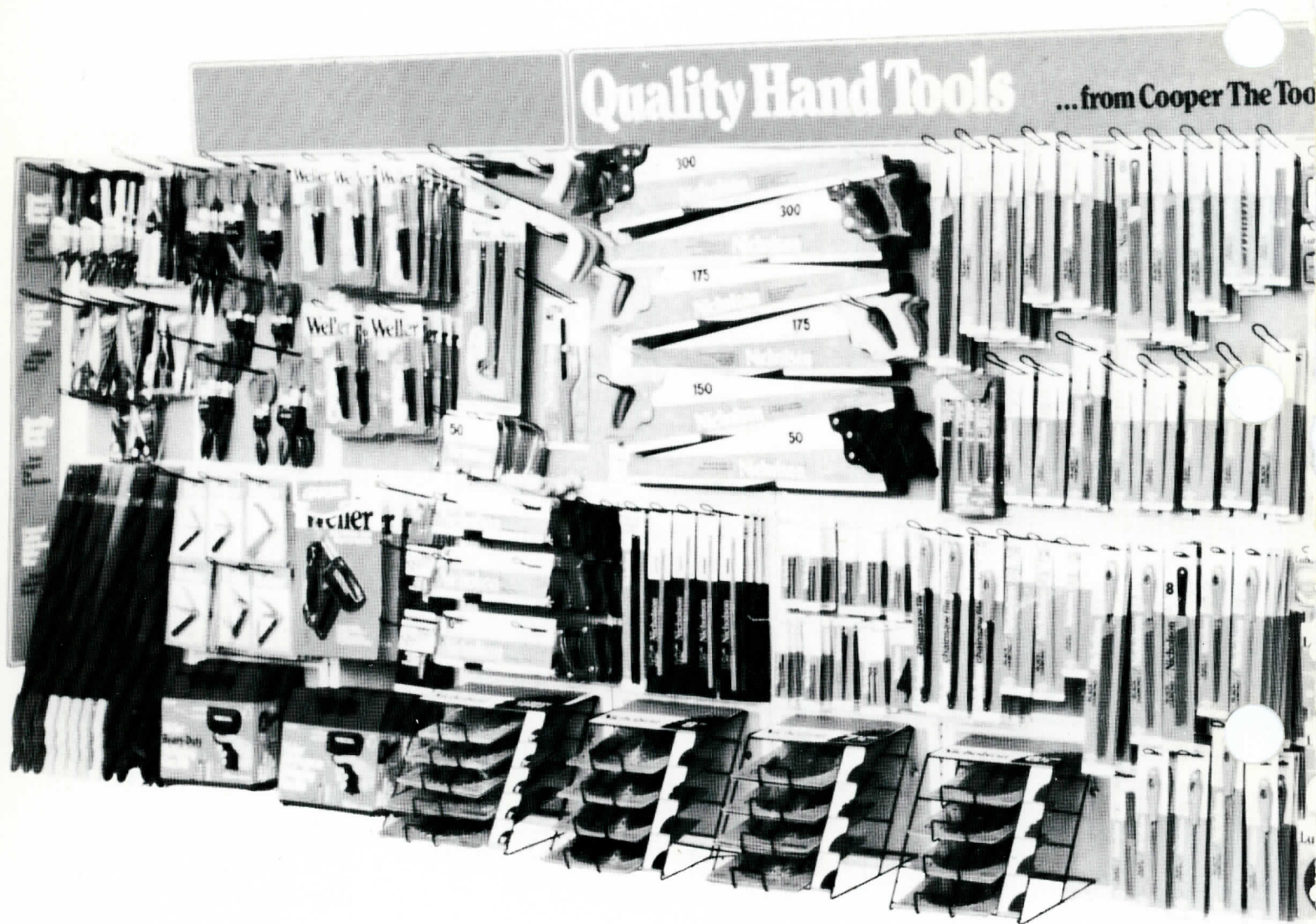


Size 17 $\frac{3}{4}$ " / 451mm wide x 17 $\frac{3}{4}$ " / 451mm high x 9" / 228mm Deep at base.  
 Shipping Weight: 22 lb / 9.98 Kg.  
 Contains: Three (3) Each 493, 8348, 3030, 9908, 3588, 8288, 8113, 8388, 8588, 8593, 9885, 9885I, 8313, 9215, 9229, 9361, 9572.

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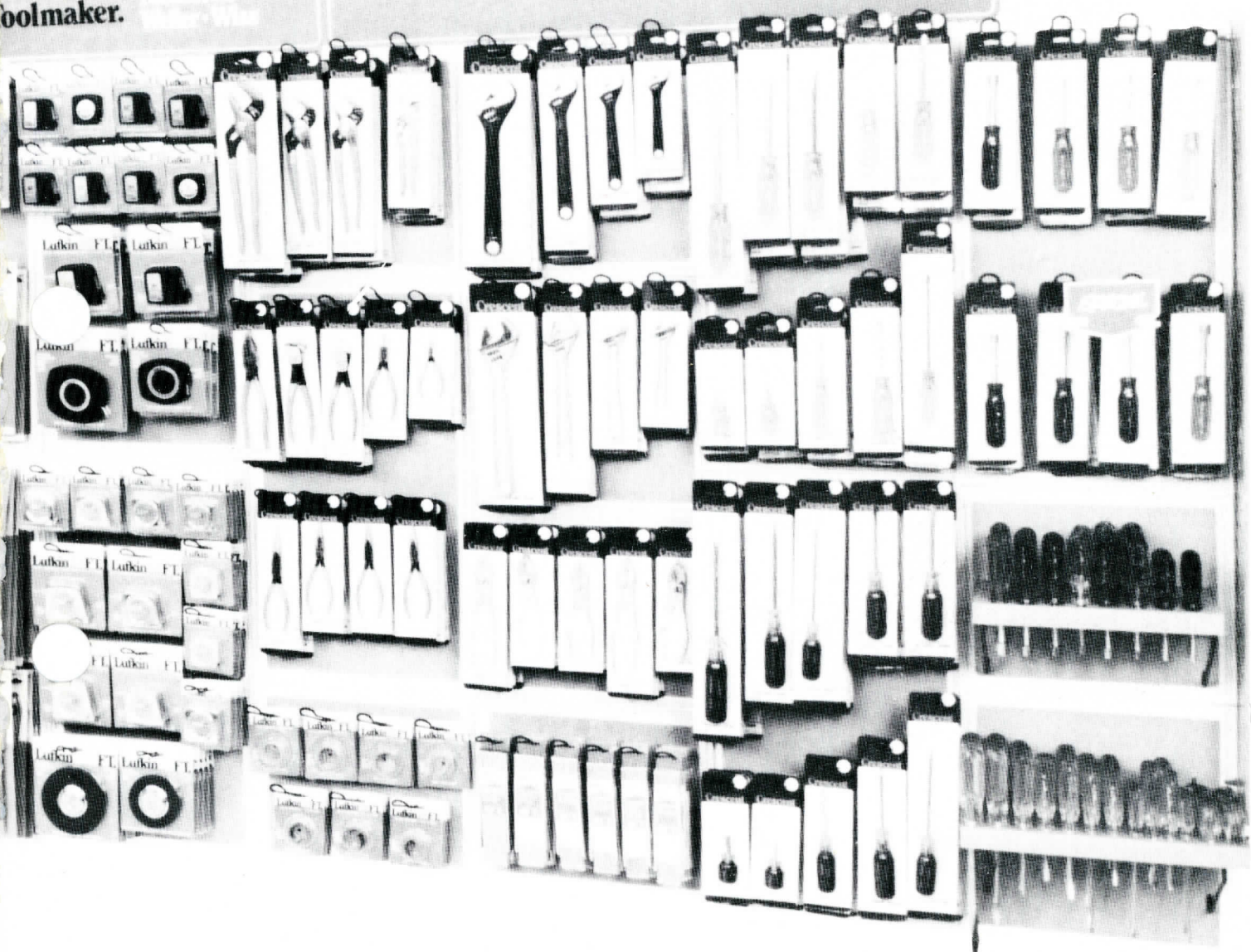




# All Together.



oolmaker.



The most famous names in tools all combine in the Cooper Tool-wall to bring you higher turnover and a better profit per square foot.

It works on a modular system to suit any size and the mix 'n' match assembly adapts to any number of product combinations.

So you can start small – say with an eight foot unit – and expand later.

Or sooner. Because impulse purchasing increases, browsers become buyers, your selling workload is reduced and stock control is made simple – all with the wall.

**The Toolwall from Cooper The Toolmaker.™**

## Notes























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